```
δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 360, App
Sequence 360, App
Sequence 360, App
Sequence 162, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 3, Appli
Sequence 1, Appli
                                                                                                      (without alignments)
7926.909 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                        September 12, 2003, 16:38:39; Search time 192.714 Seconds
                                                                                                                                                                                ctcgtgccgaattcggcacg.....aaattccttatatcagcttg 3461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 1
Sequence 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 6
Sequence 6
Sequence 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                       /cgn2_6/ptcdata/2/ina/5A_COMB.seq:*
/cgn2_6/ptcdata/2/ina/5B_COMB.seq:*
/cgn2_6/ptcdata/2/ina/6A_COMB.seq:*
/cgn2_6/ptcdata/2/ina/6B_COMB.seq:*
/cgn2_6/ptcdata/2/ina/PB_COMB.seq:*
/cgn2_6/ptcdata/2/ina/PactTGS_COMB.seq:*
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-712-016-78
US-09-389-681-360
US-09-620-405B-360
US-09-604-287A-360
US-09-000-596-162
US-09-000-596-162
US-09-330-607-162
US-09-320-149A-162
US-09-322-149A-162
US-09-322-149A-162
US-09-322-149A-162
US-09-329-360B-38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-990-571-64
US-09-528-784A-64
US-09-569-098A-64
US-08-990-571-65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-528-784A-60
US-09-569-098A-60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-528-784A-65
US-09-569-098A-65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-990-571-63
US-09-528-784A-63
                                                                                                                                                                                                                                                                                        Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-990-571-60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-311-023-3
                                                                                                                                                                                                                                                          569978 segs, 220691566 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUMMARIES
                                                                                                                                                                                                                                                                                                                                                               Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                           using sw model
                                                                                                                                                                                                             IDENTITY_NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                              Issued_Patents_NA:*
                                                                                                                                                                                                                                                                                                                    Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Match Length DB
                                                                                                                                                   US-09-642-034-1
                                                           nucleic search,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                   Perfect score:
                                                           OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                              Database:
                                                                                                                                                                                   Sednence:
                                                                                                                                                                                                                                                            Searched:
                                                                                         Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
```

							59, Appl					1, App]				Appl:	2, Appl	
Sequence 5	Seguence 6	Seguence 6	gednence e	Seguence 6	Sequence 6	Sequence 6	Sequence 5	Seguence 5	Sequence 5	gedneuce e	Seguence 6	9 eouenbes	Seguence 6	gedneuce e	g ednence e	Seguence 5	Seguence 4	
US-09-569-098A-58	US-08-990-571-66	US-08-990-571-67	US-09-528-784A-66	US-09-528-784A-67	US-09-569-098A-66	US-09-569-098A-67	US-08-990-571-59	US-09-528-784A-59	US-09-569-098A-59	US-08-990-571-61	US-09-528-784A-61	US-09-569-098A-61	US-08-990-571-62	US-09-528-784A-62	US-09-569-098A-62	US-08-845-258-5	US-08-845-258-42	
4	m	ო	₹	4	4	4	m	4	4	m	4	4	m	4	4	ო	n	
358	363	363	363	363	363	363	409	409	409	410	410	410	416	416	416	1271	1271	
1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	8.65	59.8	59.8	
28	29	30	31	32	33	34	35	36	37	38	33	40	41	42	43	44	45	
O	O	O	O	O	υ	υ	٥.	υ	O	'n	υ	O	υ	O	O		Ö	

ALIGNMENTS

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels 62;
                                                     APPLICANT: MANNING, David Lockwood
APPLICANT: MANNING, David Lockwood
APPLICANT: MANNING, Robert Ian
APPLICANT: GEE, Julia Margaret
APPLICANT: GREEN, Christopher Douglas
TITLE OF INVENTION: BREAST TUMOURS
NUMBER OF ENQUENCES: 3
CORRESPONDENCE ADDRESS:
ADDRESSEE: Y019 & Thompson
STREET: 715 South 23rd Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 1; Length 2404;
                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
ATORNARE: Patch IDM DATA:
APPLICATION NUMBER: US/08/311,023
FILING DATE: 22-SEP-1994
ATORNEY/AGENT INFORMATION:
NAME: PATCH Andrew J.
REGISTRATION NUMBER: Reg. No. 5693465 32,925
REPERENDE/DOCKET NUMBER: WCM.56
TELECHAMINICATION INFORMATION:
TELEPHONE: 703/685-0573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 2249; DB Pred. No. 0; Mismatches
Sequence 3, Application US/08311023 Patent No. 5693465 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEX: 248425
INFORMATION FOR SEQ ID NO: 3:
SEDUENCE CHARACTERISTICS:
LENGTH: 2404 DASE PAIRS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     65.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 97.4%;
Matches 2341; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nucleic acid
EDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                , MOLECULE TYPE: CDNA US-08-311-023-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                               Arlington
                                                                                                                                                                                                                                                                                              VA
USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                               22202
                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                 CITY:
STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
```

1119 GGTTTTATAGCCATTTCCATCAGTTTCCTGTCTGCTGGGGGGTTATCTTAGTGCCT 1178

Sequence

US-09-528-784A-58

 AATCGG	18	Main Main	1359 TCTTCTCAAAACATAGAAGAAAGTGCCTATTTTGATTCCACGTGGAAGGGTCTAACAGCT 1418 	1419 CTAGGAGGCCTGTATTTCATGTTTCTTGAACATGTCCTCACATTGATCAACAATTT 1478	1479 AAAGATAAGAAGAAAAAGAATCAGAAAACCTGAAAATGATGATGATGTGGAGATTAAG 1538 	1539 AAGCAGTTGTCCAAGTATGAATCTCTCAACAAATGAGGAGAAAGTAGATACAGAT 1598 	1599 GATCGAACTGAAGGCTATTTACGAGCAGCTCACAAGAGCCCTCCCACTTTGATTCTCAG 1658 	1659 CAGCCTGCAGTCTTGGAAGAAGAGGTCATGATAGCTCATGCTCATCCACCAGGAAGTC 1718 	1719 TACAATGAATATGTACCCAGAGGGTGCAAGAATAAATGCCATTCACATTTCCACGATACA 1778 	1779 CTCGGCCAGTCAGACGATCTCATCACCACCATCATGACTACCATCATATTCTCCATCAT 1838	1839 CACCACCACAAAACCACCATCCTCACAGTCAGCAGCGCTACTCTCGGGAGGAGGTG 1898 	1899 AAAGATGCCGGCGTCGCCACTTTGGCCTGGATGGTGATAATGGGTGATGGCTGCACAAT 1958 	1959 TTCAGCGATGGCCTAGCAATTGGTGCTGCTTTTACTGAAGGCTTATCAAGTGGTTTAAGT 2018 	2019 ACTICTGTTGCTGTGTCTGTGAGTTGCCTCATGAATTAGGTGACTTTGCTGTTCTA 2078	2079 CTAAAGGCTGCCATGACCGTTAAGCAGGCTGTCCTTATAATGCATTGTCAGCCATGCTG 2138 	2139 GCGTARCTTGGAATGCCAACAGGAATTTCATTGGTCATTATGCTGAAAATGTTTCTATG 2198 	2199 TGGATATTTGCACTTACTGCTGGCTTATTCATGTATGTTGCTCGGTTGATATGGTACCT 2258	2259 GAAATGCTGCACAATGATGCTAGTGACCATGGATGTAGCCGCTGGGGGTATTTTTTTT
Db	do :	25 A	QY Dp	QY	QY	QY	QQ	^K ଫ କ୍ଷ	Qy Db	QY	VQ Db	Qy Dp	Qy Db	Qy	oy Q	QY Dp	QV Db	QY
GATATTAAAACTACACTAAGTATCATTGATTCGATTCAGAAGTACTTGGATATCTCTC 333	oy sasa agrociicagigoiarcairgagagaarigiciiiarananggalarigidaccanacta sayb 	3399 GGCCTGTCTGTGGCATTCTCTAGATGTTTTTTACACAATAAATTCCTTATATCAG 3458 		ESULT 2 TG-00-211.003-1	pplication 93465 RMATION:	David Lockwood N. Robert Ian ia Margaret hristopher Douglas	TILLE OF INVENTION: METHOUS FOR FREDICTING THE BEHAVIOUR OF TITLE OF INVENTION: BREAST TUMOURS NUMBER OF SEQUENCES: 3 CORRESPONDENCE ADDRESS:	3,728	ZIP: 2220 ZIP: 2220 COMPUTER READABLE FORM: NEDIDM TYPE: Floppy disk	COMFUTAR: 1EM PC CONINGALIDAE OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version #1.25 (EPO)	AFILING DATE: 02-8FP-1994 ATTORNEY/AGENT INFORMATION: NAME: PATCH, Andrew J.	KEGISKAILON NOMBEK: REG. NO. 2693465 32,925 REFERENCE/DOORET WUMBER: WCM.56 TELECOMMUNICATION INFORMATION: TELEPHONE: 703/521-2297 THILETON TO 103/521-2297	TELEX: 248425 INFORMATION FOR SEQ ID NO: 1: SEQUENCE CHRRACTERISTICS:	o .aa	FEATURE: NAME/KEY: CDS LOCATION: 11293	Query Match 37.2%; Score 1288; DB 1; Length 1310; Best Local Similarity 99.8%; Pred. No. 0; Matches 1310; Conservative 0; Mismatches 0; Indels 2; Gaps 2;	SCCATTICCATCATCATCTGCTCTGCTGCGGGGTTATCTTAGTGCT 11	ACTEGCCGTTEGG

```
2840 AAAGAGAAGAATCTGAGAAFTGGGGAGGCAFAGAFTCTTAFAAAAATCACAAAAFTTGTF 2899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2900 gtaaattagagggagaaatttagaattaagtataaaaaggcagaattagtatagagtac 2959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: COMOSITIONS FOR THE TREATMENT AND
TITLE OF INVENTION: DIAGNOSIS OF BREAST CANCER AND METHODS FOR THEIR USE
FILE REPERENCE: 210121.4705
CURRENT APPLICATION NUMBER: US/09/389,681A
CURRENT FILING DATE: 1999-09-02
NUMBER OF SEQ ID NOS: 463
SOFTWARE: FastSEQ for Windows Version 3.0
LENGTH: 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2780 GCATGAAGCCTAAAATACCAAGAAAGCTTATACTGAATTTAAGCAAAGAAATAAAGGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2720 TTATTCCTATACTGGATTTTAGGTCTCTGAAGAACTGCTGGTGTTTAGGAATAAGAATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 AAAGAGAAGTCTGAGAATTGGGGGAGGCATAGATTCTTATAAAATCACAAAATTGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2720 TTATICCTATACTGGATTTTAGGTCTCTGAAGAACTGCTGGTGTTTAGGAATAAGAATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
APPLICANT: Jiang, Yuqiu
APPLICANT: Jiang, Yuqiu
APPLICANT: Dillon, Davin C.
APPLICANT: Mitcham, Jennifer L.
APPLICANT: Mitcham, Jennifer L.
APPLICANT: Harlocker, Susan L.
APPLICANT: Hepler, William T.
ITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND TITLE OF INVENTION: DIAGNOSIS OF BREAST CANCER
FILE REFERENCE: 210121.4708
CURRENT APPLICATION NUMBER: US/09/620,405B
CURRENT FILING DATE: 2000-07-20
NUMBER OF SEQ ID NOS: 495
SOFTWARE: FastSEQ for Windows Version 3.0
LENGTH: 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ó;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 241;
                                                                                                                                                                                                                                                                                                                                                                                                                        Length 241;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 6.9%; Score 240; DB 4; L. Best Local Similarity 100.0%; Pred. No. 3.1e-57; Matches 240; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 6.9%; Score 240; DB 4; 1
Best Local Similarity 100.0%; Pred. No. 3.1e-57;
Matches 240; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-620-405B-360/c
; Sequence 360, Application US/09620405B
; Patent No. 6528054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCATION: (1)...(241)
COTHER INFORMATION: n = A,T,C or G
US-09-620-405B-360
                                                                                                                                                                                                                                                                                                       : NAME/KET: misc_feature

: LOCATION: (1)...(241)

: OTHER INFORMATION: n = A,T,C or G

US-09-389-681-360
    APPLICANT: Xu, Jiangchun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: misc_feature
                                                                                                                                                                                                                                                   ORGANISM: Homo sapiens FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA
                                                                                                                                                                                                                                       TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δà
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δŽ
                                              2378
                                                                       2453 TAGGICATAGGGAGATGAGTTTGTATGCTGTACTATGCAGCGTTTAAAGTTAGTGGGTTT 2512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2513 TGTGATTTTTGTATTGAATATTGCTGTTACAAAGTCAGGTAAAGGTACGTTTAAT 2572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2573 ATTTAAGTTATTCTATCTTGGAGATAAAATCTGTAIGTGCAAFTCACCGGTAFTACCAGT 2632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2693 TTAATGCTTTTTCAAGAACTAACACAGTTATTCCTATACTGGATTTTAGGTCTCTGAAGA 2752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2753 ACTGCTGGTGTTAGGAATAAGAATGTGCATGAAGCCTAAAATACCAAGAAAGCTTATAC 2812
1141 GAAATGCTGCACAATGATGCTAGTGACCATGGATGTAGCCGCTGGGGGTATTTCTTTTA 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2633 TTATTATGTAAACAAGAGATTTGGCATGACATGTTCTGTATGTTTCAGGGAAAAATGTCT 2692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             59 TGTGATTTTTGTATTGAATATTGCTGTCTTACAAAGTCAGTTAAAGGTAAGGTTAAAT 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      119 ATTTAAGTTATTCTATCTTGGAGATAAAATCTGTATGTGCAATTCACCGGTATTACCAGT 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 TCGGTCATAGGGAGA--GATTTGTATGCTGTACTATGCAGCGTTTAAAGTTAGTGGGTTT 58
                                            2319 CAGAATGCTGGGATGCTTTTGGGATTTATGTTACTTATTTCCATATTTGAACAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                  2379 AAAAICGIGIITCGIATAAAITICIAGITAAGGITIAAAIGCIAGAGIAGCI 2430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 385;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 360; DB 4; Length 38.
Pred. No. 1.3e-90;
0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                      Sequence 78, Application US/09712016
Fatent No. 6468790
GRNERAL INFORMATION:
APPLICANT GISSE, Klaus
TITLE OF INVENTION: NETASTATIC BREAST AND COLON CANCER
TITLE OF INVENTION: REGULATED GENES
TITLE OF INVENTION: REGULATED GENES
TITLE OF INVENTION: REGULATED GENES
FILE REFERENCE: 200130,460
CURRENT APPLICATION NUMBER: US/09/712,016
CURRENT FILING DATE: 2000-11-13
FRIOR APPLICATION NUMBER: US/09/417,615
FRIOR PILING DATE: PRIORFILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 85
SOFTWARE: FastSEQ for Windows Version 3.0
TENDAMENT. 2007 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2813 TGAATTTAAGCAAAGAAATAAA 2834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 360, Application US/09389681A
Patent No. 6518237
GENERAL INFORMATION:
APPLICANT: Yugui, Jiang
APPLICANT: Dillon, Davin C.
APPLICANT: Mitcham, Jennifer L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                359 TGAATTTAAGCAAAAAAAAA 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 98.2%;
Matches 375; Conservative C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ) ORGANISM: Homo sapien US-09-712-016-78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-389-681-360/c
                                                                                                                                                                                                                                                                         US-09-712-016-78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH
                                                                                      g
                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    \nabla
                                            ŏ
                                                                                                                                    QΣ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΫ
```

2779

2839

62

g QΨ g Qγ 셤

셤 δŏ

```
Sequence 162, Application US/09020956
Patent No. 6261562
GENERAL INFORMATION:
APPLICANT: XL, Jiangchun
APPLICANT: XL, Jiangchun
APPLICANT: Dillin, Davin C.
TITLE OF INTURIZION: COMPOUNDS FOR IMMUNOFHERAPY OF PROSTATE CANCER AND METHODS
NUMBER OF SEQUENCES: 178
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2780 GCATGAAGCCTAAAATACCAAGAAAGCTTATACTGAATTTAAGCAAAGAAATAAAGGAGA 2839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2840 AAAGAGAAGAATCTGAGAATTGGGGGAGGCATAGATTCTTATAAAAATCACAAAATTTGTT 2899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2900 GTAAATTAGAGGGGAGAAATTTAGAATTAAGTATAAAAAGGCAGAATTAGTATAGAGTAC 2959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2720 TTATTCCTATACTGGATTTTAGGTCTCTGAAGAACTGCTGGTGTTTAGGAATAAGAATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                  TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND TITLE OF INVENTION: DIAGNOSIS OF BREAST CANCER FILE REPERENCE: 2010.11.470C7 CURRENT APPLICATION NUMBER: US/09/604,287A CURRENT FILING DATE: 2000-06-22 SOFTWARE: FASTSQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                 Length 241;
                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E: SEED and BERRY LLP 6300 Columbia Center, 701 Fifth Avenue
                                                                                                                                                                                                                                                                                                                                                                                                 Score 240; DB 4;
Pred. No. 3.1e-57;
                                                                                                                                                                                                                                                                                                                                                                                 6.9%; Scor. No. ...
100.0%; Pred. No. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                210121.427C2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/020,956
FILING DATE: 09-FEB-1998
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                           ; LOCATION: (1)...(241)
; OTHER INFORMATION: n = A,T,C or G
US-09-604-287A-360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: 2101:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (206) 622-4900
TELEFAX: (206) 682-6031
INFORMATION FOR SEQ ID NO: 162:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: Maki, David J.
REGISTRATION NUMBER: 31,392.
Hepler, William T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ZIP: 98104
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                    al Similarity 100.
240; Conservative
                                                                                                                                                                                                                                                                                    NAME/KEY: misc_feature
                                                                                                                                                                                                                                            ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: 6300 co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-020-956-162/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ΜĀ
                                                                                                                                                                       SEQ ID NO 360
LENGTH: 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local S
Matches 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY:
STATE:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                        TYPE: DNA
                                                                                                                                                                                                                                                                 FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                         MESOUR 5679973

Sequence 360, Application US/09433826B

Sequence 360, Application US/09433826B

Patent No. 6579973

Sequence 360, Application US/09433826B

Sequence 360, Application US/09433826B

SERENTAL INFORMATION:

APPLICANT: Dillon, Davin C.

APPLICANT: Mitcham, Jennifer L.

APPLICANT: Mitcham, Jangchun

APPLICANT: Mitcham, Jangchun

APPLICANT: Mitcham, Jangchun

TITLE OF INVENTION: COMPOSITIONS FOR THE TREATMENT AND

TITLE OF INVENTION: COMPOSITIONS FOR THEIR USE

FILE REFERENCE: 210121.47064

CURRENT APPLICATION NUMBER: US/09/433,826B

CURRENT FILING DATE: 1999-11-03

NUMBER OF SECUID NOS: 474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2780 GCATGAAGCCTAAAATACCAAGAAAGCTTATACTGAATTTAAGCAAAGAAATAAAGGAGA 2839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2840 AAAGAGAATCTGAGAATTGGGGAGGCATAGATTCTTATAAAAATCACAAAATTGTT 2899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2900 GIAAATTAGAGGGAGAAATTTAGAATTAAGTATAAAAGGCAGAATTAGTATAGAGTAC 2959
                                            2780 GCATGAAGCCTAAAATACCAAGAAAGCTTATACTGAATTTAAGCAAAGAAATAAAGGAGA 2839
                                                                                                                               2840 AAAGAGAATCTGAGAATTGGGGAGGCATAGATTCTTATAAAAATCACAAAATTTGTT 2899
                                                                                                                                                                                                                   2900 GTAAATTAGAGGGAGAAATTTAGAATTTAAGTATAAAAAGGCAGAATTAGTATAGAGTAC 2959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2720 TIAIICCTAIACTGGAIIIIAGGICICTGBAGAACTGCTGGTGGITTAGGAATAAGAAIGI 2779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241 ITATICCIAIACIGGAITITAGGICICIGAAGAACIGCIGGIGITITAGGAAIAAGAAIGI 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 GTAAATTAGAGGGGAGAAATTTAGAATTAAGTATAAAAAGGCAGAATTAGTATAGAGTAC 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 241;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6.9%; Score 240; DB 4;
100.0%; Pred. No. 3.1e-57;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-604-287A-360/c

) Sequence 360, Application US/09604287A

) Patent No. 6586572

) GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; LOCATION: (1)...(241)
; OTHER INFORMATION: n = A,T,C or G
US-09-433-8268-360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Jiang, Yuqiu
APPLICANT: Dillon, Davin C.
APPLICANT: Mitcham, Jennifer L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Xu, Jiangchun
Harlocker, Susan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 100.'
Matches 240; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: Fas
SEQ ID NO 360
TRNGTH: 241
```

DNA FEATURE: APPLICANT: APPLICANT:

61

셤 δŽ g

δŽ

QΫ́ g

á ద

엄 δ 셤

qq δŽ

```
3219 GATGTICTGGTIACCTGGTITACAAAHTATCAGAGTAGTAAAAACTTTGATATATATGAG 3278
          3159 ITTATGTATCACCAGACTGGGTTATTGCCAAGTTATATATCACCAAAAGCTGTATGACTG 3218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     165 TITATGTATCACCAGACTGGGTTATTGCCAAGTTATATATCACCAAAAGCTGTATGACT 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               105 GAUGITCIGGITACCIGGITTACAAAATTATCAGAGTAGTAAAACTTIGATATATGAG 46
                                                                                                                                                                                                  3159 ITTATGTATCACCAGACTGGGTTATTGCCAAGTTATATCACCAAAAGCTGTATGACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INCRMATION:
APPLICANT: Dillon, Davin C.
APPLICANT: Jarlocker, Susan Louise
APPLICANT: Jarlocker, Sugan Louise
APPLICANT: Jarnochun
APPLICANT: Xu, Jiangchun
APPLICANT: Xu, Jiangchun
APPLICANT: Mitcham, Jennifer Lynn
APPLICANT: MITCHAM
APPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INC. 0225000

APPLICANT: Xu, Jiangchun
APPLICANT: Xu, Jiangchun
APPLICANT: Dillon, Davin C.
APPLICANT: Mitchan, Jennifer L.
APPLICANT: Harlocker, Susan Louise
APPLICANT: Harlocker, Steven G.
APPLICANT: Read, Steven G.
APPLICANT: Renger, Gary
APPLICANT: Renger, Gary
APPLICANT: Renger, Gary
APPLICANT: Solk, John
APPLICANT: 1099, Craig
TILLE OF INVENTION: COMPOSITIONS OF PROGRATE CANCER
TILLE REFERENCE: 210121.427C9
CURRENT PLING DATE: 1999-11-12
NUMBER OF SEQ ID NOS: 575
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 162
LENGTH: 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4.8%; Score 165; DB 4; Length 177;
100.0%; Pred. No. 2.2e-36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3279 GATATTAAAACTACACTAAGTATCATTGATTCGATTCAGAAAGT 3323
                                                                                                                                                                                                                                                                  3279 GAIATTAAAACTACACTAAGTATCATTGATTCGATTCAGAAGT 3323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Pred. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 162, Application US/09352616A Patent No. 6395278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . Sequence 162, Application US/09439313
. Patent No. 6329505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 11
US-09-352-616A-162/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-439-313-162/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-439-313-162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              165;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΣ
                                                                   g
                                                                                                                                      δ
                                                                                                                                                                                                                                                                     δŽ
                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 162, Application US/09030607

Patent No. 626245

GENERAL INFORMATION:
GENERAL OF PROSTATE CANCER AND METHODS FOR NUMBER OF SEQUENCES: 224
CORRESPONDENCES: 224
CORRESPONDENCE ADDRESS:
ADDRESSEE: SEED and BERKY LLP
STREET: 6300 Columbia Center, 701 Fifth Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                        3159 TITATGTATCACCAGACTGGGTTATTGCCAAGTTATATATCACCAAAAGCTGTATGACTG 3218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                               ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3279 GATATTAAAACTACACTAAGTATCATTTGATTCGATTCAGAAAGT 3323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 177;
                                                                                                                                                                                                                                                                                         4.8%; Score 165; DB 3; Length 177; 100.0%; Pred. No. 2.2e-36; Ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GATATTAAAACTACACTAAGTATCATTTGATTCGGATTCAGAAAGT 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Pathentin Ralease #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/030,607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4.8%; Score 165; DB 3; L
100.0%; Pred. No. 2.2e-36;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY AGENT INFORMATION:
NAME: Maki, David J.
REGISTRATION NUMBER: 31,392
REFERENCE/DOCKET NUMBER: 210121.427C3
TELEPHONE: (206) 622-4900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (206) 622-4900
TELEFAX: (206) 682-6031
INFORMATION FOR SEQ ID NO: 162:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25-FEB-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 177 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.
Matches 165; Conservative
LENGTH: 177 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                  ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                      CDNA
                                                                                             TOPOLOGY: linear
MOLECULE TYPE: CDN
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CITY: Seattle STATE: WA. COUNTRY: USA ZIP: 98104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE: 2: CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS:
TOPOLOGY: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 9
US-09-030-607-162/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-030-607-162
                                                                                                                                                                                                                                US-09-020-956-162
                                                                                                                                                                                                                                                                                                                                 Best Local Sim
Matches 165;
                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             45
```

```
Sequence 64, Application US/08990571
Patent No. 6214971
GENERAL INFORMATION:
APPLICANT: Reed, Steven G. et al.
TITLE OF INTENTION: COMPOUNDS AND METHODS FOR THE DIAGNOSIS AND TREATMENT OF
NUMBER OF SEQUENCES: 79
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1273 GGTGGCACTGATATCACGTGGATGGTCCTCCTGGGAGATGGTCTACACAACCTCACTGAT 1332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2088 GGCATGACCGTTAAGCAGGCTGTCCTTTAAATGCATTGTCAGCCATGCTGGCGTATCTT 2147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2208 GCACTTACTGCTGGCTTATTCATGTAGTTGCTCTGGTTGATATGGTACCTGAAATGCTG 2267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1968 GGCCTAGCAATTGGTGCTGCTTTTACTGAAGGCTTATCAAGTGGTTTAAGTACTTCTGTT 2027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1333 GGGCTGGCCATAGGTGCTGCCTTCTCTGATGGCTTCTC-CGCGGCCTCAGTACCACCTTA 1391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2028 GCTGTGTTCTGTCATGAGTTGCCTCATGAATTAGGTGACTTTGCTGTTCTACTAAAGGCT 2087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1452 GGGCTGTCCTTTCGGCGCCTGCTGCTGCTGGCTCGTGTCTGGAGCCCTGGGATTGGG 1511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1512 GGTGCAGTCCTGGGGGTGGGGCTCAGCCTGGGCCCTGTCCCCCTCACTCCCTGGGTGTT 1571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1908 GCCGTCGCCACTTTGGCCTGGATGGTGATAATGGGTGATGGCCTGCACAATTTCAGCGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2148 GGAATGGCAACAGGAATTTTCATTGGTCATTATGCTGAAAATGTTTCTATGTGGATATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1888;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 110.6; DB 4;
Pred. No. 1.5e-20;
0; Mismatches 149;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE: SEED AND BERRY 701 Fifth Avenue STREET: 6300 Columbia Center, 701 Fifth Avenue
                     CURRENT APPLICATION NUMBER: US/09/599,360B
CURRENT FILING DATE: 2000-06-21
PRIOR APPLICATION NUMBER: 60/113,686
PRIOR FILING DATE: 1998-12-22
PRIOR FILING DATE: 1999-06-25
PRIOR PILING DATE: 1999-06-25
PRIOR PELICATION NUMBER: 09/469,099
PRIOR FILING DATE: 1999-12-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: SCORE 5.00
OTHER INFORMATION: SEQ HILAGECUWVULG/WV
NAME/KEY: POLYA_Signal
LOCATION: 1854..1859
NAME/KEY: POLYA_Site
LOCATION: 1873..1888
US-09-360B-38
                                                                                                                                                                                                                                                                                                                                        FEATURE:
NAME/KEY: CDS
LOCATION: 139..1389
LOCATION: 139..129
LOCATION: 139..128
OTHER INFORMATION: Von Heijne matrix
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3.2%;
       FILE REFERENCE: GENSET.050CP3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 58,44
Matches 211, Conservative
                                                                                                                                                                                                      NUMBER OF SEQ ID NOS: 123
SOFTWARE: Patent.pm
SEQ ID NO 38
LENGTH: 1888
                                                                                                                                                                                                                                                                                                                     ORGANISM: Homo Sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2268 C 2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1632 C 1632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 14
US-08-990-571-64/c
                                                                                                                                                                                                                                                                                                  TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           \overline{\Omega}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q\overline{Q}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Dumas Milne Edwards, J.B.
APPLICANT: Bougueleret, L.
APPLICANT: Jobert, S.
TITLE OF INVENTION: Complementary DNA's Encoding Proteins with Signal Peptides
                                                                                                                                                                                                                                                                                                                                                                                   3219 GAIGIICIGGITACCIGGITTACAAAITATCAGAGTAGTAAAACTITGATATATGAG 3278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3159 ITTARGRANGACCAGACTGGGTTATTGCCAAGTTATATATCACCAAAAGCTGTATGACTG 3218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3159 TITATGIATCACCAGACTGGGTTATTGCCAAGTTATATATCACCAAAAGCTGTATGACTG 3218
                                                                                                                                                                                                                                                                                                                     46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            105 GAIGITICHGATACCIGGITTACAAATTATCAGAGTAGTAAAACTTIGATATATATAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        165 TITATGTATCACCAGACTGGGTTATTGCCAAGTTATATATCACCAAAAGCTGTATGACTG
                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                     ·
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: XU, Jiangchun
APPLICANT: Dillon, Dennifer Lynn
APPLICANT: Mitcham, Jennifer Lynn
TITLE OF INVENTION: COMPOUNDS FOR IMMUNOTHERAPY OF PROSTATE
TITLE REPERENCE: 210121.42706
CURRENT APPLICATION NUMBER: US/09/232,149A
CURRENT FILLING DATE: 1999-01-15
NUMBER OF SEQ IN NOS: 338
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3279 GATATTAAAACTACACTAAGTATCATTTGATTCGATTCAGAAGT 3323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3279 GATATTAAAACTACACTAAGTATCATTTGATTCGATTCAGAAGT 3323
                                                                                                                                                                                                    4.8%; Score 165; DB 4; Length 177; 100.0%; Pred. No. 2.2e-36; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 4.8%; Score 165; DB 4; Length 17° Best Local Similarity 100.0%; Pred. No. 2.2e-36; Matches 165; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      45 GATATTAAAACTACACTAAGTATCATTTGATTCGATTCAGAAAGT 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    45 GATATTAAAACTACACTAAGTATCATTTGATTCGATTCAGAAAGT 1
CURRENT FILING DATE: 1999-07-13
WUMBER OF SEQ ID NOS: 472
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5-09-232-149A-162/c
Sequence 162, Application US/09232149A
Patent No. 6465611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5-09-599-360B-38
Sequence 38, Application US/09599360B
Patent No. 6548633
                                                                                                                                                                                                                           Similarity 100.
                                                                                                               ; TYPE: DNA
; ORGANISM: HOMO sapien
US-09-352-616A-162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-232-149A-162
                                                                                                                                                                                                                         Best Local Sim
Matches 165;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 162
LENGTH: 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA
                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                                                               pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                   QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
```

```
g
                                                                                                                                                                                                                           δğ
                                                                       QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   405 ATCCATATACACCATGACCACGACCATCACTCAGACCACGAGCATCACTCAGACCATGAG 464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               465 CGTCACTCAGACCATGAGCATCACTCAGACCACGAGCATCACTCTGACCATGATCATCAC 524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Reed, Steven G.
APPLICANT: Reed, Steven G.
APPLICANT: Reed, Steven G.
APPLICANT: Houghton, Raymond L.
APPLICANT: Sleath, Paul R.
APPLICANT: Sleath, Paul R.
APPLICANT: Sleath, Paul R.
APPLICANT: McNeill, Patricia D.
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THE DIAGNOSIS
TITLE OF INVENTION: AND TREATMENT OF B. MICROTI INFECTION
FILE REFERENCE: 210121.426C4
CURRENT APPLICATION NUMBER: US/09/528,784A
CURRENT FILING DATE: 2000-03-17
NUMBER OF SED ID NOS: 90
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 59.8; DB 4; Length 285;
Pred. No. 7e-07;
0; Mismatches 47; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 1.7%; Score 59.8; DB 3; Length 285; Best Local Similarity 65.2%; Pred. No. 7e-07; Matches 88; Conservative 0; Mismatches 47; Indels
                                                                                       CALP: 9810

COMPUTER: READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: TBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENY APPLICATION NUMBER: US/08/990,571
FILING DATE: 11-DEC-1997
CLASSIFICATION:
NAME: Maki, David J.
NAME: Maki, David J.
REGISTRATION NUMBER: 31,392
REFRENCE/DOCKET NUMBER: 210121.426C2
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION INFORMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-528-784A-64/c
; Sequence 64, Application US/09528784A
; Patent No. 6451315
; GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           525 TCTCACCATAATCAT 539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TAGGCCCACCAGCTT 58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 Similarity 65.2
88; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA ORGANISM: Babesia microti
Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                       USA
                                                                       98104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-528-784A-64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
US-08-990-571-64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 64
LENGTH: 285
                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
```

405 ATCCATATACACCATGACCACGACCATCACTCAGACCACGAGCATCACTCAGACCATGAG 464

```
September 12, 2003, 16:50:35 ; Search time 792.001 Seconds (without alignments) 10609.165 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-642-034-1
3461
1 ctcgtgccgaattcggcacg......aaattccttatatcagcttg 3461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1: /cgn2_6/ptcdata/2/pubpna/USO7_PUBCOMB.seq:*
2: /cgn2_6/ptcdata/2/pubpna/USO7_PUBCOMB.seq:*
3: /cgn2_6/ptcdata/2/pubpna/PCT_NEW_PUB.seq:*
3: /cgn2_6/ptcdata/2/pubpna/USO6_PUBCOMB.seq:*
4: /cgn2_6/ptcdata/2/pubpna/USO6_PUBCOMB.seq:*
5: /cgn2_6/ptcdata/2/pubpna/PCTUS_PUBCOMB.seq:*
6: /cgn2_6/ptcdata/2/pubpna/PCTUS_PUBCOMB.seq:*
7: /cgn2_6/ptcdata/2/pubpna/USO9_PUBCOMB.seq:*
8: /cgn2_6/ptcdata/2/pubpna/USO9_PUBCOMB.seq:*
9: /cgn2_6/ptcdata/2/pubpna/USO9_PUBCOMB.seq:*
10: /cgn2_6/ptcdata/2/pubpna/USO9_PUBCOMB.seq:*
11: /cgn2_6/ptcdata/2/pubpna/USO9_PUBCOMB.seq:*
12: /cgn2_6/ptcdata/2/pubpna/USO9_PUBCOMB.seq:*
13: /cgn2_6/ptcdata/2/pubpna/USO9_PUBCOMB.seq:*
14: /cgn2_6/ptcdata/2/pubpna/USO9_PUBCOMB.seq:*
15: /cgn2_6/ptcdata/2/pubpna/USO9_PUBCOMB.seq:*
16: /cgn2_6/ptcdata/2/pubpna/USO9_PUBCOMB.seq:*
16: /cgn2_6/ptcdata/2/pubpna/USO0_NEW_PUB.seq:*
17: /cgn2_6/ptcdata/2/pubpna/USO0_NEW_PUB.seq:*
18: /cgn2_6/ptcdata/2/pubpna/USO0_NEW_PUB.seq:*
19: /cgn2_6/ptcdata/2/pubpna/USO0_NEW_PUB.seq:*
10: /cgn2_6/ptcdata/2/pubpna/USO0_NEW_PUB.seq:*
11: /cgn2_6/ptcdata/2/pubpna/USO0_NEW_PUB.seq:*
12: /cgn2_6/ptcdata/2/pubpna/USO0_NEW_PUB.seq:*
13: /cgn2_6/ptcdata/2/pubpna/USO0_NEW_PUB.seq:*
14: /cgn2_6/ptcdata/2/pubpna/USO0_NEW_PUB.seq:*
15: /cgn2_6/ptcdata/2/pubpna/USO0_NEW_PUB.seq:*
16: /cgn2_6/ptcdata/2/pubpna/USO0_NEW_PUB.seq:*
17: /cgn2_6/ptcdata/2/pubpna/USO0_NEW_PUB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3264840
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1632420 segs, 1213878141 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Published_Applications_NA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Post-processing: Minimum Match 10%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                 OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IDENTITY_NUC Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Minimum DB seq length: 0 Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Searched:
                                                                                                                                                                                                                                                          Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                Title:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Sequence 51, Appl	Sequence 10007, A	Sequence 170, App	Sequence 263, App	Sequence 591, App	Sequence 10321, A	Sequence 13805, A	Sequence 8490, Ap	Sequence 11215, A	Sequence 2021, Ap	Sequence 94, Appl	Sequence 94, Appl	Sequence 94, Appl	Sequence 22272, A	Sequence 78, Appl	Sequence 78, Appl
Д	US-10-176-847-51	US-10-198-846-10007	US-10-171-581-170	US-10-177-293-263	US-09-925-300-591	US-10-198-846-10321	US-10-198-846-13805	US-10-198~846-8490.	US-10-198-846-11215	US-09-867-701-2021	US-09-778-320-94	US-09-910-689-94	US-10-010-742-94	US-09-918-995-22272	US-09-827-669-78	US-10-236-006-78
BB :	14	14	14	14	10	14	14	14	14	10	σι	6	13	17	σ	12
% Query Match Length DB	3586	3537	2744	2744	1193	1449	1032	909	1598	483	395	395	395	504	385	385
% Query Match	96.4		78.5												10.4	10.4
Score	3336	3335.6	2716	2716	1141.4	4.006	694.2	578.4	578.4	404.8	390.8	390.8	390.8	389.6	360	360
Result No.	· H	7	ო	4	ហ	φ	7	∞	თ	10	c 11	c 12	c 13	14	15	16

120 CGCGGAGACGAAGGCGCAATGGCGAAGGTAATCTGTAATCTTGATCTTGACCTGTGCC 179

 $\nabla \Omega$ d QQ Dp

245 CGCGGAGACGAAGGCGCAATGGCGAAGGAAGTTATCTGTAATCTTGATCCTGACCTTTGCC 304

-15367 Sequence 15367, A -30283 A -30283 A -30283 A Sequence 30283, A -2202 Sequence 7874, App Sequence 7874, App Sequence 14, App Sequence 1455, App Sequence 16373, App Sequence 16373, App Sequence 360, App Sequence 360, App Sequence 360, App Sequence 162, App Sequence 1	4; Length 3586; 0; Indels 43; Gaps 4;	ACCGCGTGTTCGCGCCTGGTAGAGATTTCTCGAAGACACCAGTGG
118 - 995 119 - 995 119 -	Score 3336; DB 1 Pred. No. 0; 0; Mismatches	ACCGCGTGTTCGCGCCTGGTAGABATTCTCGAAGACACCAGTGG
10.0 9.7 9.2 9.2 9.2 9.2 9.2 7.7 7.7 7.7 7.0 7.0 7.0 7.0 7.0 6.9 6.9 6.9 6.9 6.9 6.9 6.9 6.9 6.9 4.8 4.8 4.8 4.8 4.8 4.8 4.8 4.8 4.8 4.8	h Similarity 98.8%; 19; Conservative	ACCGCGTGTTCGCGCCTCTCGCGCCTCTCGCGCCTCTCGCGCCTTCGCGCCTTGTTG
17 345.4 10.0 18 335.6 9.7 20 21 31.8 9.6 20 22 319.2 9.2 21 319 9.2 22 24 253 7.7 2 24.2.4 7.0 25 24.2.4 7.0 26 24.4 7.0 27 241.2 7.0 27 241.2 7.0 29 240.8 7.0 27 241.2 7.0 29 240.8 7.0 21 31 240 6.9 240 6.9 240 6.9 241 165 4.8 241 165 4.8 242 165 4.8 243 165 4.8 241 165 4.8 241 165 4.8 241 165 4.8 241 165 4.8 242 165 4.8 243 165 4.8 244 165 4.8 241 165 4.8 241 165 4.8 241 165 4.8 242 165 4.8 243 165 4.8 244 165 4.8 244 165 4.8 245 165 4.8 247 165 4.8 241 165 4.8 241 165 4.8 242 165 4.8 243 165 4.8 244 165 4.8 244 165 4.8 245 165 4.8 25 17TLE OF INVENTION: 27TLE OF INVENTION: 27	Query Match Best Local Si Matches 3419;	Oy 23 P Db 125 P Oy 68 -

1320 GCAATGGAAATGAAAAGAGACCACTTTCAGTCATCTGCTCTCAAAACATAGAAGAA	1500 CAGAGARACCTGARARGATGATGATGAGAGATTAACAAGCAGTTGTCCAAGTATGAA 1559	1620 CGAGCACTCACAAGAGCCCTCCCACTTTCATTCTCAGCAGCCTGCAGTCTTGGAAGAA 1679	1740 GGGTGCAAGAATAAATGCCATTCACACATACCACTCGGCCAGTCAGACGATCTC 1799	1860 CCTCACAGTCACAGCCAGCGCTACTCTCGGGAGGAGCTGAAAGATGCCGGCGTCGCCACT 1919	1980 GGTGCTGTTTACTGAAGGCTTATCAAGTGGTTTAAGTACTTCTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGT	2100 AAGCAGGCTGTCTTTATAATGCATTGTCAGCCTGCTGGCGTATCTTGGAATGGCAACA 2159 [2220 GGCTTATTCATGTATGTTGCTCGTTGATATGGTACCTGAAATGCTGCAAATGATGTTGT 2279
00 AV	da dy dy	da da	QY QY Db	0 y 0 y 0 y	, da , da	Oy Oy	8 8 8 8 8 8
240 AAAATTAGTCCGAATTGGGAATCTGGCATTAATGTTGGCAATTTCCACACGGCAA 299	TICASANAATIRCITCAAATIATAGACATAGATAASATIAAAASATUCATATACAAGACATAGACAATACAATACAATACAATA	GCTGCTTCTGGTAAAATAAGCGAAAAGCCCTTTGCCCAGACCATGACTCAGATAGTTCA 59 GCTGCTTCTGGTAAAAATAAGCGAAAAGCCCTTTGCCCCAGACCATGACTCAGATAGTTCA 59 CTTCTGGTAAAAATAAGCGAAAAGCTCTTTGCCCCAGACCATGACTCAGATAGTTCA 70 GGTAAAAGATCCTAGAAACAGCCAGGGGAAAGGGCTCACCGACCAGAACATGCCAGTGGT 65 GCTAAAAGATCCTAAAAAAACCAGCAAAGGAAACAACCAAC	AGAAGGAATGTCAAGGACAGTGTTAGTGCTAGTGAAGTGACCTCAACTGTGTGACACACTCT	82/ GICICISAANGSAACICACITICIASAGACAATAGAGACITICCAAGGACCIGGAAAACICITC 886 780 CCCAAAGATGTAAGCAGCTCCACTCCACCCCAGTGACACAGGCCGGGTGAGCCGG 839 [AGAACCACAAATGAAAATCCTCAGGAGTTTCAATGCATCAAAGCTACTGACATCTCAT 959	ATCAACCAAATTGAIGCTAGAICTTGTCTGATTCATACAAGTGAAAGAAGGCTGAAATC 107	ATCAGTTTCCTGTCTGCTGGGGGTTATCTTAGTGCTCTCATGAATCGGGTGTTTTC 119

```
362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        243 ATTAGTCCGAATTGGGAATCTGGCATTAATGTTGACTTGGCAATTTCCACACGGCAATAT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGABABITACTICABABITATAGGCATAGAITABAGATIABABGAATCCATATACACCATGAC 422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACGACCATCACTCAGACCACGAGCATCACTCAGACCATGAGCGTCACTCAGACCATGAG 482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                584
                                                                                                                                                                                                                                                                                                                                                                                                                                         62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             63 AGTGGGCCCGTGTGGAACCAAACCTGCGCGTGGCCGGGCCGTGGGACAACGAGGCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGAGACGAAGGCGCAATGGCGAGGAAGTTATCTGTAATCTTGATCCTGACCTTTGCCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     183 TCTGTCACAAATCCCCTTCATGAACTAAAAGCAGCTGCTTTCCCCCAGACCACTGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                183 TCTGTCACAAATCCCCTTCATGAACTAAAAGCAGCTGCTTTCCCCCAGACCACTGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CATCTACAACAGCTTTTCTACCGCTATGGAGAAAATAATTCTTTGTCAGTTGAAGGGTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              243 ATTAGTCCGAATTGGGAATCTGGCATTAATGTTGACTTGGCAATTTCCACACGGCAATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCITCIGGIAAAAIAAGCGAAAAGCICITIGCCCAGACCAIGACICAGAIAGIICAGGI
                                                                                                                                                                                                                                                                                                                                                                                                                                         CGTGCCGAATTCGGCACGAGACCGCGTGTTCGCGCCTGGTAGAGATTTCTCGAAGACACC
                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                APPLICANT: Wu, Yongyan

APPLICANT: Wang, Youzhen

APPLICANT: Weng, Youzhen

APPLICANT: Steinmann, Kathleen

APPLICANT: Steinmann, Kathleen

TITLE OF INVENTION: NOVEL GENES, COMPOSITIONS, KITS, AND METHODS

TITLE OF INVENTION: THERAPY OF BREAST CANCER

FILE REFERENCE: MRI-049

CURREMY APPLICATION NUMBER: US/10/198,846

CURREMY APPLICATION NUMBER: US/10/198,846

PRIOR PILING DATE: 2002-07-18

PRIOR APPLICATION NUMBER: 00/306,220

PRIOR FILING DATE: 2001-07-18

NUMBER OF SEQ ID NOS: 14084

SOFTWARE FRASEEQ for Windows Version 4.0

SEQ ID NO 10007
                                                                                                                            AND
                                                                                                                                                                                                                                                                                                                                                                                    14; Length 3537
                                                                                                                                                                                                                                                                                                                                                                                                              25;
                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                              4;
                                                                                                                                                                                                                                                                                                                                                                                    DB
                                                                                                                                                                                                                                                                                                                                                                                  Score 3335.6;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                              NAME/KEY: misc_feature

1 DOCATION: 1, 2, 3533, 3534, 3535, 3536, 3537

CHER INFORMATION: n = A,T,C or G

US-10-198-846-10007
              Sequence 10007, Application US/10198846 Publication No. US20030099974A1
                                                                                                                                                                                                                                                                                                                                                                                    96.48;
99.28;
                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 99.2
Matches 3433; Conservative
                                                         APPLICANT: Lillie, James
                                                                                                                                                                                                                                                                                        ORGANISM: Homo sapiens
                                          ; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             363
                                                                                                                                                                                                                                                                                                                                                                                                                                         m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     543
                                                                                                                                                                                                                                                                            TYPE: DNA
                                                                                                                                                                                                                                                                                                       FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q_{\overline{\Lambda}}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ΩŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                            2759
                                                                                                                                                                                                                                                                                                                   2819
                                                                                                                                                                                                                                                                                                                                                                      2879
                                                                                                                                                                                                                                                                                                                                                                                                                           2939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3419
                                          2519
                                                                                               2579
                                                                                                                                                    2639
                                                                                                                                                                                                         2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3524
                                                                                                                                                                                                                                                                                        2864
                                                                                                                                                                                                                                                                                                                                           2924
                                                                                                                                                                                                                                                                                                                                                                                                                                                      3044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3344
               2564
                                                                                                                          2684
                                                                                                                                                                                                                                 2804
                                                                                                                                                                                                                                                                                                                                                                                                 2984
                                                                                                                                                                                                                                                                           TITGIATIGAATAITGCIGTCIGTTACAAAGTCAGTTAAAGGTACGTITTAATAITTAAG
                                                                                                                                                                                                                      GTGTTTAGGAATAAGAATGTGCATGAAGCCTAAAATACCAAGAAAGCTTATACTGAATTT
                                                                                                                                                                                                                                                                                                                                TAAAAATTTAGTTTTGTAAATTAGAGGGGGGAGAAATTTAGAATTTAAGTATAAAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGTAGTGAGCACTCTCATATACTAATTAGTGTACATTTAACTTTGTATAATACAGAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TAGGGAGATGAGTTTGTATGCTGTACTATGCAGCGTTTAAAGTTAGTGGGTTTTGTGAGT
                                                                                                               TTATTCTATCTTGGAGATAAAATCTGTATGTGCAATTCACCGGTATTACCAGTTTATTAT
                                                                                                                                                                              2685 TRATICTACTAGGAGATAAAATCTGTATGTGCAATTCACCGGTATTACCAGTTTATTAT
                                                                                                                                                                                                         GTAAACAAGAGATTTGGCATGACATGTTCTGTATGTTTCAGGGAAAAATGTCTTTAATGC
                                                                                                                                                                                                                                                            TITITCAAGAACTAACACAGTTATTCCTATACTGGATTTTAGGTCTCTGAAGAACTGCTG
                                                                                                                                                                                                                                                                                                                                                                      AAGCAAAGAAATAAAGGAGAAAAAGAAAATCTGAGAATTTGGGGAGGCATAGATTCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCAGAATTAGTATAGAGTACATTCATTAAACATTTTTGTCAGGATTATTTCCCGGTAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TAAATATATTTAATGAATTCAAGCAATATACACTTGACCAAGAAATTGGAATTTCAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTTCGTGCGGGTTATATACCAGATGAGTACAGTGAGTAGTTTATGTATCACCAGACTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  THATTGCCAAGTTATATATCACCAAAAGCTGTATGACTGGATGTTCTGGTTACCTGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACAAAATTATCAGAGTAGTAAAACTTTGATATATATGAGGATATTAAAACTACACTAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCATTIGALICGALICAGAAAGIACITIGAIATCICICAGIGCITCAGIGCIAICATIG
                                         TAGGGAGATGAGTTTGTATGCTGTACTATGCAGCGTTTAAAGTTAGTGGGTTTTGTGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2520
                                                                                                                                                                                                                                                                                                                2760
                                                                                                                                                                                                                                                                                                                                                                                                2925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2940 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3360
                                                                                                                                                   2580
                                                                                                                                                                                                      2640
                                                                                                                                                                                                                                                            2700
                                                                                                                                                                                                                                                                                                                                           2865
                                                                                                                                                                                                                                                                                                                                                                     2820
                                                                                                                                                                                                                                                                                                                                                                                                                          2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3525
                                                                    2565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3285
                                        2460
                                                                                                                        2625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3105
              2505
```

g

DP OY

δ

ద

ŏ

οg

à

οp

QΥ

ŏ

 ď

Q

662

603 AAAGAICCTAGAAACAGCCAGGGAAAGGAGCTCACCGACCAGAACATGCCAGTGGTAGA

QΛ

1665 GAGGICATGATAGCTCATCCACAGGAAGTCTACAATGAATATGTACCCAGAGGG 1724	1923 GCCTGGARGGTGARATGGGTGARGCCTGCACAATTTCAGCGARGCCTAGCAATTGGT 1982	2043 GAGTTGCCTCATGAATTAGGTGACTTTGCTGTTCTACTAAAGGCTGGCATGACCGTTAAG 2102	2163 ATTTCATTGCTCATTATGCTGAAAAGTTTCTATGTGGGATATTGCACTTACTGGGC 2222 11	GACCAIGGARGAGCGCTGGGGGTATTCTTTAACAGAATGCTGGGATGCTTTGGGT 23	343 TTTGGAATTAIGTTACTTATTCCATATTTGAACATAAAATCGTGTTTCGTATAAATTC 240	:AAGGITTAAATGCIAGAGIAGCITAAAAAGITGTCATAGITTCAGTAGGTCAIAG INGAGITTGTATGCIGTACTATGCAGCGITTAAAGITAGIGGGITTTGTGAITTT 2 	523 GTATTGAATATTGCTGTTACAAAGTCAGTTAAAGGTACGTTAATATTTAAGTTA 2	2583 TICTATICTICGGGGATAAAATCIGGTATGTGCGAATTACCAGGGTATTACCAGGGTATTACTAGGAATAAATCATGGGAATAATAACAGGAATAAAAATCAGGGAATAATAACAGGAATAAAAATCAGGAATAATGAGGAATAAAATCAGGGAAAATGAGGGAAAAATGAGGGAAAAATGAGGAAAAAA	TGGCATGACATCTTCTGTATGTTTCAGGGAAAAATGTCTT ACACAGTTATTCCTATACTGGATTTTAGGTCTCTGAAGAA 	2763 TTTAGGAATTAAGAATGTGCATGAAGCCTAAAATACCAAGAAAGCTTATACTGAATTTAAG 2822
	da oy	QY DD QA	Qy Db	7 AA	do oy	96 AA	ÅÖ ÖÖ	å å å	90 90	Qy Bb
		0 4 0 5	2 4 2	84 62 44	22 04 82	64 42 24		.562 544 622	04	64
	STGAGCCGGCTG 82 STGAGCCGGCTG 82 STGTATTCCAGA 88 ACGTATTCCAGG 96	63 AGGGCATCCAGGTCCTGAATGCTTCAATGCATCAATGCTTCTG 63 ATGGGCATCCAGGTCCGCTGAATGCAACAAGGTTCAACTATCTCTG 64 ATGGGCATCCAGGTTCCGCTGAATGCAACAAGTTCAACTATCTCTG 65 AACCAAATTGATGCTAGATCTTGTCTGATTCATACAAATGAAAAAAA 66 AACCAAATTGATGCTAGATCTTGTTCTATACATACAAATGAAAAAAA 66 AACCAAATTGATCTAATCATTCATACATACAAAAAAAAAA	CCAAAGACCTATTCATTACAAATAGCCTGGGTGGTGTTTATAGCCATTCCATCATC CCAAAGACCTATTCATTACAAATAGCCTGGGTTGTTGTTTTATAGCCATTCCATCATC CCAAAGACCTATTCATACAAATAGCTGGTTGTTGTGTGTTTTATAGCCATTCCATCATCATCATCATCATCATCATCATCATCATC	GTGTTTTCAAA 11 GATGCTTTTTA 12 	GAAGAACCAGCA 13.		3 CTTGTTGAACATGTCCTCACATTGATCAACAATTTAAAGATAAGAAGAAAAAAGAATCAG 15 	TCCAAGTATGAATCT 1 TCCAAGTATGAATCT 1 GAAGGCTATTTACGA 1		IGCAGICTIGGAAGAAGA 16 IGAATATGTACCCAGAGGG 17

OY 1 CTGTGCCGAATTCGGCACGAGGCGGGTTCGCGCCTGGTAGAGATTTCTCGAAGACA 60	QY 61 CCAGTGGGCCCGTGTGGAACCAAACCTGCGCGGGCCGTGGGACGAGGCC 120 1	QY 121 GCGGAGACGAATGGCGAGGAAGTTATCTGTAATCTTGACCTGACCTTTGCC 180	QY 181 TCTCTGTCACAAATCCCCTTCATGAACTAAAAGCAGCTGCTTTCCCCCAGACCACTGAGA 240	30	QY 301 ATCATCTACAACAGTTTTCTACCGCTATGGAGAAATAATTCTTTGTCAGTTGAAGGGT 360	QY 361 TCAGAAAATTACTTCAAAATATAGGCATAGATAAGATTAAAAGAATCCATATACACCATG 420	QY 421 ACCACGACCATCACTCAGACCACGAGCATCACTCAGACCATGAGCGTCACTCAGACCATG 480 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	QY 481 AGCATCACTCAGACCACGAGCATCACTCTGACCATGATCACTCTCACCATAATCATG 540	OY 541 CTGCTTCTGGTAAAATAAGCGAAAAGCTCTTTGCCCAGACCATGACTCAGATAGTTCAG 600 [OY 601 GTAAAGATCCTAGAAACAGCCAGGGGAAAGGAGCTCACCACCAGAACATGCCAGTGGTA 660	Oy 661 GAAGGAATGTCAAGGACAGTGTTAGTGCTAGTGAAGTGA	OY 721 TCTCTGAAGGAACTCACTTTCTAGAGACAATAGAGACTCCAAGACCTGGAAAACTCTTCC 780	AN 781 CCAAAGAIGTAAGCACTCCACTCCACCCAGTGTCACATCAAGAGCCGGGTGAGCCGGC 840	QY 841 TGGCTGGTAGGAAAAAAATGAATCTGTGAGTGAGCCCGGAAAAGGCTTTATGTATTCCA 900	OY 901 GADACACADATGADATCCTCAGGAGTGTTTCADTGCATCAAGCTACTGACATCTCATG 960	OY 961 GCATGGGCATCCAGGTTCCGCTGAACAACAGAGTTCAACTATCTGTGCAGCCATCA 1020	QY 1021 TCAACCAAATTGATGCTAGATCTTGTCTGATTCAAGTGAAAAGAGGGGTGAAATCC 1080
OY 2823 CAAAGAAATAAAGGAGAAAAGAGAATCTGAGAATTGGGGAGGCATAGATTCTTATAA 2882 	OY 2883 ABATCACAAAATTTGTTGTAAATTTAGAGGGAGAAATTTAGAATTTAAGATTTAAGAAG	QY 2943 GAATTAGTATAGAGTACATTCATTAAACATTTTGTCAGGATTATTTCCCGTAAAACGT 3002 	QY 3003 AGTGAGCAC-TCTCATATACTAATTAGTGTACATTTAACTTTGTATAATACAGAAATC 3059 	QY 3060 TABATATTTAATGAATTCAAGCAATATA-CACTTGACCAAGAAATTGGAATTTCAAAA 3118 	OY 3119 TGTTCGTGCGGGTTATATACCAGATGAGTAGGTGAGTAGGTTTATGTATCACCAGACTG 3177	QY 3178 GGTTATTGCCAAGTTATATATCACCAAAAGCTGTATGACTGGATGTTCTGGTTACTGGT 3237	OY 3238 TTACAAAATTATCACAGTAQTAAAACTTTGAFATATATGAGGATATTAAAACTGCGCTAA 3297 	OY 3298 GTATCATTGATTCGATTCAGAAAGTACTTGATATCTCTCAGTGCTTCAGTGCTACAT 3357	Qy 3358 TGFGAGCAATTGTC TTATATACGGTACTGTACCATACTAGGCCTGTCTGTGCCATTC 3416	QY 3417 TCTAGATGTTTTTTACACAAPAAATTCCTTATATCAGC 3458 	SSULT 3 5-10-1171-581-170 Semmons 170 baralication RC/1017150	Sequence 1/ Publication GENERAL INF APPLICANT:	APPLICAMY: DIBSORY, FECEL TITLE OF INVENTION: Signature Genes in FILE REFERENCE: 9301.157-999 FILE APPERENCE: 9301.157-999	CONTRAIN FILING DATE: 2002-06-14 PRIOR APPLICATION NUMBER: 60/298,914 PRIOR FILING DATE: 2001-06-18 PRIOR FILING DATE: 2001-06-18 PRIOR FILING DATE: 3001-06-18	SEQ ID NO 170 LENGTH: 2744 TYPE: DNA OTYPE: DNA OTYPE: ACC.	PUBLICATION INFO DATABASE ACCESS DATABASE ENTRY S-10-171-581-170	Query Watch 78.5%; Score 2716; DB 14; Length 2744; Best Local Similarity 99.3%; Pred. No. 0; Matches 2744; Conservative 0; Mismatches 0; Indels 18; Gaps 1;

```
1440
                                                                                                                                                                                                                                                                                                                                                                                                                      1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                1242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1482
                                                                                                                                                                                                 1020
                                                             822
                                                                                                                                                                                                                  943 GCATGGGCATCCAGGTTCCGCTGAATGCAACAAGAGTTCAACTATCTCTGTCCAGCCATCA
                                                                                                                                                                                                                                                                                                                        GTGCCTAFTTTGATTCCACGTGGAAGGGTCTAACAGCTCTAGGAGGCCTGTATTCATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      703 TCTCTGAAGGAACTCACTTTCTAGAGACAATAGAGACTCCAAGACCTGGAAAACTCTTCC
                                                   TGGCTGGTAGGAAAACAAATGAATCTGTGAGTGAGCCCCCGAAAAGGCTTTATGTATTCCA
                                                                                                       TGGCTGGTAGGAAAACAAATGAATCTGTGAGTGAGCCCCGAAAAAGGCTTTATGTATTCCA
                                                                                                                                            GAAACACAAAAGAAAATCCTCAGGAGTGTTTCAATGCATCAAAGCTACTGACATCTCATG
                                                                                                                                                            GCATGGGCATCCAGGTTCCGCTGAATGCAACAGGGTTCAACTATCTCTGTCCAGCCATCA
                                                                                                                                                                                                                                                      1021 TCAACCAAATTGATGCTAGATCTTGTCTGATTCATACAAGTGAAAAGAAGGCTGAAATCC
                                                                                                                                                                                                                                                                               1003 TCAACCAAATTGATGCTAGATCTTGTCTGATTCATACAAGTGAAAAGAAGGCTGAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TACACCTTCTTCCACATTCTCATGCAAGTCACCACCATAGTCATAGCCATGAAGAACCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAATGGAAATGAAAAGAGGACCACTTTTCAGTCATCTGTCTTCTCAAAACATAGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1501 AGAAGAAACCIGAAAAIGAIGAIGAIGIGGAGAITAAGAAGCAGIIGICCAAGIAIGAAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTCAACTTTCAACAAATGAGGAGAAAGTAGATACAGATGATCGAACTGAAGGCTATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAGCAGACTCACAAGACCCTCCCACTTTGATTCTCAGCAGCCTGCAGTCTTGGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAGCAGACTCACAAGAGCCCTCCCACTTTGATTCTCAGCAGCCTGCAGTCTTGGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1723 GGTGCAAGAATAAATGCCATTCACATTTCCACGATACACTCGGCCAGTCAGACGATCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCAAAGATGTAAGCAGCTCCACTCCACCCAGTGTCACATCAAAGAGCCGGGTGAGCCGGGC
                                                                                                                                                                                                                                                                                                            CTCCAAAGACCTATTCATTACAAATAGCCTGGGTTGGTGGTTTTATAGCCATTTCCATCA
                                                                                                                                                                                                                                                                                                                                                                TCAGTTTCCTGTCTCTGCTGGGGGTTATCTTAGTGCCTCTCATGAATCGGGGTGTTTTCA
                                                                                                                                                                                                                                                                                                                                                                                                                     1201 AATTICTCCTGAGTTTCCTTGTGGCACTGGCCGTTGGGACTTTGAGTGGTGATGCTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1363 Grecciartificartecacetegaagegretaacacetetageageceteriteargr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1681 AAGAGGTCATGATAGCTCATGTCATCCACAGGAAGTCTACAATGAATATGTACCCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGTGCAAGAATAAATGCCATTCACATTTCCACGATACACTCGGCCAGTCAGACGATCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1381 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1603 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1663
                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1243
                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                     1063
                                                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1321
                                   781
                                                                                                                 823
                                                                                                                                                                                                  961
                                                                                                                                                                                                                                                                                                          1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1741
                                                                                                                                         QΥ
                                                                                                                                                                     g
                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  d
G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \tilde{Q}_{\overline{Q}}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                           셤
                                                                                        δ
                                                                                                                 음
                                                                                                                                                                                                  QΩ
                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                          δý
                                                                                                                                                                                                                                                                                                                                                               δý
                                                                                                                                                                                                                                                                                                                                                                                                                     QΣ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \Omega
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    φ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     \Omega
                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTCTGAAGGAACTCACTTTCTAGAGACAATAGAGACTCCAAGACCTGGAAAACTCTTCC
                                                                                                                                                                                                                                                                                                                                     GCGCAGACGAAGGCGCAATGGCGAGGAAGTTATCTGTAATCTTGATCCTGACCTTTGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                AAATTAGTCCGAATTGGGAATCTGGCATTAATGTTGACTTGGCAATTTCCACACGGCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCAGAAAATTACTTCAAAATATAGGCATAGATAAAGATTAAAAGAATCCATATACACCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCACGACCATCACTCAGACCACGAGCATCACTCAGACCATGAGCGTCACTCAGACCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCACGACCATCACTCAGACCACGAGCATCACTCAGACCATGAGCGTCACTCAGACCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----AATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTAAAGATCCTAGAAACAGCCAGGGGAAAGGAGCTCACCGACCAGAACATGCCAGTGGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTCGTGCCGAATTCGGCACGAGACCGCGTGTTCGCGCCTGGTAGAGATTTCTCGAAGACA
                                                                                                                                                                                                                                                                                                                                                                            CCAGTGGGCCCGTGTGGAACCAAACCTGCGCGGGCCGGGGCCGTGGGACAACGAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTCTGTCACAAATCCCCTTCATGAACTAAAAGCAGCTGCTTTCCCCCCAGACCACTGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAATTAGTCCGAATTGGGAATCTGGCATTAATGTTGACTTGGCAATTTCCACACGGCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATCATCTACAACAGCTTTTCTACCGCTATGGAGAAAATAATTCTTTGTCAGTTGAAGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCATCACTCAGACCACGAGCATCACTCTGACCATGATCATCACTCTCACCATAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGCTTCTGGTAAAAATAAGCGAAAAGCTCTTTGCCCAGACCATGACTCAGATAGTTCAG
                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                             18;
                                                                                                                                                                                                                                                                  Length 2744;
                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                  DB 14;
                                                                                                                                                                                                                                                                                            ó;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR FILING DAFE: 2001-06-21
PRIOR APPLICATION NUMBER: US 60/301,572
PRIOR FILING DAFE: 2001-06-27
PRIOR FILING DAFE: 2001-06-27
PRIOR PILING DATE: 2001-07-18
PRIOR APPLICATION NUMBER: US 60/305,002
PRIOR APPLICATION NUMBER: US 60/362,585
PRIOR PLICATION NUMBER: US 60/362,585
PRIOR PLIING DATE: 2002-09-25
PRIOR PLIING DATE: 2002-09-14
NUMBER OF SEQ ID NOS: 506
SOFUTH OF SEQ ID NOS: 506
                                                                                                                                                                                                                                                                                            0; Mismatches
                                                                                                                                                                                                                                                                  Score 2716;
Pred. No. 0;
                                                                                                                                                                                                                                                                 78.5%;
99.3%;
                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 99.3
Matches 2744; Conservative
                                                                                                                                                                                                                         ; ORGANISM: Homo sapiens
US-10-177-293-263
                                                                                                                                                                                                                                                                                                                      \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q_{\overline{Y}}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
```

QΫ́

δ

Ω g $^{\circ}$ δŽ

δŽ

ő

735

09

795

```
1216 TCCTTGTGGCACTGGCCGTTGGGACTTTGAGTGGTGATGCTTTTTTACACCTTCTTCCAC 1275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTCTCATGCAAGTCACCACCATAGTCATAGCCATGAAGAACCAGCAATGGAAATGAAAA 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGGACCACTTTCAGTCAICTGTCTTCTCAAAACATAGAAGAAGTGCCTATTTGATT 1395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CATTACAAATAGCCTGGGTTGGTGGTTTTATAGCCATTTCCATCATCAGTTTCCTGTCTC 1155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCCTCAGGAGTGTTTCAATGCATCAAAGCTACTGACATCTCATGGCATGGGCATCCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                            241 ATCCTCAGGAGTGTTTCAATGCATCAAAGCTACTGACATCTCATGGCATGGGCATCCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTCCGCTGAATGCAACAGAGTTCAACTATCTCTGTCCAGCCATCATCAACCAAATTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301 ITCCGCTGAATGCAACAGAGTTCAACTATCTCTGTCCAGCCATCATCAACCAAATTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTAGATCTTGTCTGATTCATACAAGTGAAAAGAAGGAGGCTGAAATCCCTCCAAAGACCTATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCTGGGGGTTATCTTAGTGCCTCTCATGAATCGGGTGTTTTTCAAATTTCTCCTGAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCACGTGGAAGGGTCTAACAGCTCTAGGAGGCCTGTATTTCATGTTTCTTGTTGAACATG
                                                                                                                                                                                                                                                                                ACTITICIAGAGACAATAGAGACTCCAAGACCTGGAAAACTCTTCCCCAAAGATGTAAGCA
                                                                                                                                                                                                                                                                                                                                                                          CAAATGAATCTGTGAGTGAGCCCCGGAAAAGGCTTTATGTATTCCAGAAACACAAATGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541 YCCYTGTGGCACTGGCCGTTGGACTTTTGGTGTGATGCTTTTTTACACCTTCTTCACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661 GAGGACCACTITICAGICATCIGICITCICAAAACAIAGAAGAAAGIGCCIAITITIGAIT
                                                                                                                                                                                                                                     ACAGTGTTAGTGCTAGTGAAGTGACCTCAACTGTACAACACTGTCTCTGAAGGAACTC
                                                                                                                                                                                       Score 1141.4; DB 10; Length 1193;
Pred. No. 2.8e-280;
; Mismatches 0; Indels 0;
    Antibodies
    and
FILE OF INVENTION: Nucleic Acids, Proteins and FILE REFERENCE: PA101
CURRENT APPLICATION NUMBER: US/09/925,300
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05988
PRIOR APPLICATION NUMBER: 60/124,270
PRIOR FILING DATE: 1999-03-12
NUMBER: OF SEQ ID NOS: 1890
SEQ ID NOS: 1890
SEQ ID NO 591
                                                                                                                                                                                     Query Match 33.0%;
Best Local Similarity 99.7%;
Matches 1139; Conservative
                                                                                                                                                      Homo sapiens
                                                                                                                                                                 US-09-925-300-591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1276
                                                                                                                                                                                                                                     919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1456
                                                                                                                                                                                                                                                         Н
                                                                                                                                                                                                                                                                                736
                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                            964
                                                                                                                                                                                                                                                                                                                                                                          856
                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                      916
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 916
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                           TYPE: DNA
                                                                                                                                                   ORGANISM:
                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ωp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ΩD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QY
                                                                                                                                                                                                                                     ă
                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                           QΣ
                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                       Ω.
                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                              δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ω.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                           2280
                                                                                                                                                                                                                                                                                                                                       2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                      2442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2640
                                                                                                        2040
                                                                                                                                                     2100
                                                                                                                                                                                                   2160
                                                                                                                                                                                                                                              2220
                                                                                                                                                                                                                                                                    2202
                                                                                                                                                                                                                                                                                                                                                                                    2400
                                                                                                                                                                                                                                                                                                                                                                                                                                 2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2742
                                                            1980
                                                                                                                                                                            2082
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2562
                                                                                                                                                                                                                                                         GIGACCATGGATGTAGCCGCTGGGGGTATTTTTTTTTTACAGAATGCTGGGATGCTTTTTGG
                                                                                                                                                                                                                                                                                                                                                             GIGACCATGGATGTAGCCGCTGGGGGTATTTTTTTTTACAGAATGCTGGGATGCTTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTAGTTAAGGTTTAAATGCTAGAGTAGCTTAAAAAGTTGTCATAGTTTCAGTAGGTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGGAGATGAGTTTGTATGCTGTACTATGCAGCGTTTAAAGTTAGTGGGGTTTTGTGATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGTATTGAATATTGCTGTCTGTTACAAAGTCAGTTAAAGGTACGTTTTAATATTTAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TATTCTATCTTGGAGATAAAATCTGTATGTGCAATTCACCGGTATTACCAGTTTATTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TAAACAAGAGATTTGGCCATGACATGTTCTGTTTTCAGGGAAAAATGTCTTTAATGCT
              CTCACAGTCACAGCGCTACTCTCGGGAGGAGCTGAAAGATGCCGGCGTCGCCACTT
                          GIGCIGCITTIACTGAAGGCTTATCAAGTGGTTTAAGTACTTCTGTTGTTGTTCTGTC
                                                                                                                   ATGAGTTGCCTCATGAATTAGGTGACTTTGCTGTTCTACTAAAGGCTGGCATGACCGTTA
                                                                                                                                                                                                 AGCAGGCTGTCCTTTATAATGCATTGTCAGCCATGCTGGCGTATCTTGGAATGGCAACAG
                                                                                                                                                                                                                                              GAATITITCATIGGICATIATCCIGAAAAIGITICIATGIGGAIATITIGCACTIACIGCIG
                                                                                                                                                                                                                                                                                          GCTTATTCATGTAGTTGCTCTGGTTGATATGGTACCTGAAATGCTGCACAATGATGCTA
                                                                                                                                                                                                                                                                                                                                                                                   GTTTTGGAATTATGTTACTTATTTCCATATTTGAACATAAAATCGTGTTTCGTATAAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTTTCAAGAACTAACACAGTTATTCCTATACTGGATTTTAGGTCTCTGAAGAACTGCTGG
                                                           TGGCCTGGATGGTGATAATGGGTGATGGCCTGCACAATTTCAGCGATGGCCTAGCAATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 591, Application US/09925300 Patent No. US20020151681A1 GENERAL INFORMATION:
APPLICANT: Craig Rosen, APPLICANT: Steve Ruben
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 5
US-09-925-300-591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            _G
                                                                                                                           1963
                                                                                                                                                                         2023
                                                                                                                                                                                                                                                                  2143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2743
            1861
                                   1843
                                                          1921
                                                                                1903
                                                                                                       1981
                                                                                                                                                   2041
                                                                                                                                                                                                2101
                                                                                                                                                                                                                      2083
                                                                                                                                                                                                                                             2161
                                                                                                                                                                                                                                                                                          2221
                                                                                                                                                                                                                                                                                                               2203
                                                                                                                                                                                                                                                                                                                                      2281
                                                                                                                                                                                                                                                                                                                                                           2263
                                                                                                                                                                                                                                                                                                                                                                                   2341
                                                                                                                                                                                                                                                                                                                                                                                                        2323
                                                                                                                                                                                                                                                                                                                                                                                                                               2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                      2383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2761
                                                                                                                                                                                                                                                                                                                                                        QQ
                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                 원
                                                          δŏ
                                                                           셤
                                                                                                     δ
                                                                                                                          셤
                                                                                                                                                   ğ
                                                                                                                                                                    g
                                                                                                                                                                                                QΥ
                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                          δŽ
                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                        QY
                                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                                                   δŽ
                                                                                                                                                                                                                                                                                                                                                                                 ØΫ
                                                                                                                                                                                                                                                                                                                                                                                                                              QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .. .. ..
```

1215

600

099

1455

1095

420

1035

360

915

240 975 300

σ

Wed

```
CTTTTCAGTCATCTGTCTTCTCAAAACATAGAAGAAAGTGCCTATTTGATTCCACGTGG 1403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1584 AAAGTAGATACAGATGATGGAACTGAAGGCTATTTACGAGCAGCAGACTCACAAGAGCCCTCC 1643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACTITGATICICAGCAGCCIGCAGTCTIGGAAGAAGAGAGGTCATGATAGCTCATGCT 1703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1704 CATCCACAGGAAGTCTACAATGAATATGTACCCAGAGGGTGCAAGAATAAATGCCATTCA 1763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CATITICCACGATACACTCGGCCAGICAGACGATCTCALICACCACCATCATGACTACCAT 1823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1883 CICTCGGGAGGAGCTGAAAGATGCCGGCGTCGCCACTTTGGCCTGGATGGTGATAATGGG 1942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1943 TGATGGCCTGCACAA-TTTCAGCGATGGCCTAGCAATTGG-TGCTGCTTTTACTGAA-GG 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1099 CTTAICCAAGTGGTTAAGTACTICIG-TGCTGTTCTGTACATGAGTGCCTCATGAATT 1157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1404 AAGGGTCTAACAGCTCTAGGAGGCCTGTATTTCATGTTTCTTGTTGAACATGTCCTCACA 1463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          859 CATITICCACGATACACTCGGCCAGTCAGACGATCTCATTCACCACCATCATGACTACCAT 918
                                                                                                                         559 TIGAICAAACAATITAAAGATAAGAAGAAAAAAGAAICAGAAGAAACCIGAAAAIGAIGAT
                                                                                                                                                                                                                                                                                                                                                                                  1524 GATGTGGAGATTAAGAAGCAGTTGTCCAAGTATGAATCTCAACTTTCAACAAATGAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                  619 GATGTGGAGATTAAGAAGCAGTTGTCCAAGTATGAATCTCCAACTTTCAACAAATGAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1039 TGAIGGCCTGCACAAITTTCAGCGAIGGCCTAGCAATIGGCTGCTGCTTTTACTGAAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2060 AGGIGACTITGCTGTTCTACTAAAGGCTGGCATGACCGTTAAGCAGGCTGTCCTTTATAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTTATCAAGTGGTTTAAGTACTTCTGTTGCTGTGTTCTGTCATGAGTTGCCTCATGAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 13805, Application US/10198846
Publication No. US2003009974A1
GENERAL INFORMATION:
SPELICANT: Lillie, James
APPLICANT: Xu, Yongyao
APPLICANT: Xu, Yongyao
APPLICANT: Wang, Youzhen
APPLICANT: Wang, Youzhen
APPLICANT: Wang, Youzhen
APPLICANT: Wang, Youzhen
TITLE OF INVENTION: NOVEL GENES, COMPOSITIONS, KITS, AND METHODS
TITLE OF INVENTION: FOR IDENTIFICATION, ASSESSMENT, PREVENTION,
TITLE OF INVENTION: THERAPY OF BREAST CANCER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TG 1218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2120 TG 2121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-198-846-13805
                                                                                                 1344 (
                                                                                                                                                                                                                                                                                      1464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1644 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1217
       1284
                                                                                                                                                                                                                                                                                                                                                                                                                        Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
       QY
DD
                                                                                  ŏΣ
                                                                                                                                   g
                                                                                                                                                                                          δŽ
                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                  Q\underline{y}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1575
                                                                                                                                                                                                                                                                1695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCACTGGCCGTTGGGACTTTGAGTGGTGATGCTTTTTTACACCTTCTTCCACATTCTCAT 1283
                                                                                                                                                                                                                   096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Wang, Youzhen
APPLICANT: Wang, Youzhen
APPLICANT: Wang, Youzhen
APPLICANT: Stelmann, Kathleen
APPLICANT: Stelmann, Kathleen
TITLE OF INVENTION: NOVEL GENES, COMPOSITIONS, KITS, AND METHODS
TITLE OF INVENTION: FOR IDENTIFICATION, ASSESSMENT, PREVENTION, AND
TITLE OF INVENTION: FOR IDENTIFICATION, ASSESSMENT, PREVENTION, AND
TITLE OF INVENTION: FOR IDENTIFICATION, ASSESSMENT, PREVENTION, THERAPY OF BREAST CANCER
FILLS REPERBACE: MAI-049
CURRENT APPLICATION NUMBER: 05/10/198,846
PRIOR APPLICATION NUMBER: 60/306,220
PRIOR PILING DATE: 2001-07-18
NUMBER: OF SEQ ID NOS: 14/084
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 10321
TENETH: TENETH OF THE TOTAL OF THE
                                                                                                                                                                                                                                                                                                                                                                                1576 ATGAGGAGAAAGTAGATACAGATGATCGAACTGAAGGCTATTTACGAGCAGACTCACAAG
                                                                                                                                                                                                                                                             AGCCCTCCCACTTTGATTCTCAGCAGCCTGCAGTCTTGGAAGAAGAAGAGGTCATGATAG
                                                                                                                                                                                                                                                                                                             CTCATGCTCATCCACAGGAAGTCTACAATGAATATGTACCCAGAGGGTGCAAGAATAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCATTCACATTCCACGATACACTCGGCCAGTCAGACGATCTCATTCACCACCATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATAGCCTGGGTTGGTGGTTTTATAGCCATTTCCATCATCAGTTTCCTGTCTCTGCTGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        199 ACAGCCIGGGIIGGIGGITITATAGCCATTICCAICATCAGTTICCIGICTCTGCTGGGG
                                                                          ATGATGATGTGTGGAGATTAAGAAGCAGTTGTCCAAGTATGAATCTCAACTTTCAACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26.0%; Score 900.4; DB 14; Length 1449; ilarity 96.4%; Pred. No. 9.9e-219; Conservative 0; Mismatches 31; Indels 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 10321, Application US/10198846 Publication No. US20030099974A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ) LOCATION: 1447, 1448, 1449
; OTHER INFORMATION: n = A,T,C or
US-10-198-846-10321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Lillie, James
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 985; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |||
ACT 1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACT 1818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 6
US-10-198-846-10321
                                                                        1516
                                                                                                                                                                                                                                                             1636
                                                                                                                                                                                                                                                                                                                                                                                                      1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1224
                                                                                                                                                                                                                                                                                                        196
                                                                                                                                                                                                                                                                                                                                                       1696
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
                        781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ΩŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                             g
                                                                                                                                                               δ
                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                           <u>2</u>
                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                       QY
                                                                                                                                                                                                                                                                                                                                                                                                 d
                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                     ð
```

```
CTAGGAGGCCTGTATTTCATGTTCTTGTTGAACATGTCCTCACATTGATCAAACAATTT 1478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1479 AAAGATAAGAAGAAAAAGAATCAGAAGGAACCTGAAAATGATGATGATGTGTGGAGATTAAG 1538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAGCAGTTGTCCAAGTATGAATCTCAACTTTCAACAAATGAGGAGAAAGTAGATACAGAT 1598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1599 GATCGAACTGAAGGCTATTTACGAGCAGACTCACAAGAGCCCTCCCACTTTGATTCTCAG 1658
                                      GCCATTTCCATCATCAGTTTCCTGTCTCTGGGGGGTTATCTTAGTGCCTCTCATGAAT 1187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           723 AAGGTGAAATCCCTTCCAAAGAGCTAATTCATTTACAAATAGGCTGAGTTGGGGTATATA 782
                                                                                                                                                                                                                                                                       APPLICANT: Xu, Yongyao
APPLICANT: Wang, Youzhen
APPLICANT: Wang, Youzhen
APPLICANT: Wang, Youzhen
TITLE OWN.
TITLE OF INVENTION: FOR IDENTIFICATION, ASSESSMENT, PREVENTION, AND
TITLE OF INVENTION: FOR IDENTIFICATION, ASSESSMENT, PREVENTION, AND
TITLE OF INVENTION: FOR IDENTIFICATION, ASSESSMENT, PREVENTION, AND
FILLE PREPERSINCE: MRI-049 SEAST CANCER
CURRENT APPLICATION NUMBER: US/10/198,846
CURRENT FILLING DATE: 2002-07-18
PRIOR FILLING DATE: 2001-07-18
NUMBER OF SEQ ID NOS: 14084
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 8490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTTCTCAAAACATAGAAGAAGTGCCTATTTTGATTCCACGTGGAAGGGTCTAAACAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCAATTCCATCAATCAGTACCTG -- CACTGCGGGGGTAAACTAAACGGCCCTTAATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1179 CTCATGAATCGGGTGTTTTTCAAATTTCTCCTGAGTTTCCTTGTGGCACTGGCCGTTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11 CGCATGAATCGGGTGTTTTTCAAATTTCTCCTG-NTTTCCTTGTGGCACTGGCCGTTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACTITIGAGIGGIGARGCITITITIACACCITICITICCACALICICALGCAAGICACCACCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTCATAGCCATGAAGAACCAGCAATGGAAATGAAAAGAGGACCACTTTTCAGTCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             190 TCTTCTCAAAACATAGAAGAAAAGTGCCTATTTTGATTCCACGTGGAAGGGTCTAACAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGGTGTTTTTCAAATTTCTCCTGAGTTTCCTTGTGGCCACTGGCCGTTG 1236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 606;
                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 578.4; DB 14
Pred. No. 7.3e-137;
0; Mismatches 5;
                                                                                                                                                                                                               Sequence 8490, Application US/10198846 Publication No. US20030099974A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: misc_feature
LOCATION: 1, 44, 516, 571, 600,
CTHER INFORMATION: n = A,T,C or
US-10-198-846-8499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Match 16.7%;
Local Similarity 99.0%;
nes 590; Conservative
                                                                                                                                                                                                                                                              APPLICANT: Lillie, James
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Homo sapiens FEATURE:
                                                                                                                                                                                 RESULT 8
US-10-198-846-8490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1239 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1419 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1539
                                                                                                  1188
                                    1128
                                                                    783
                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Loc
Matches
                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                              ζ
                                                                                                                               셤
                                                                                                 Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGACATCTCATGGCATGGGCATCCAGGTTCCGCTGAATGCAACAGAGTTCAACTATCTC 1007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGTCCAGCCATCATCAACCAAATTGATGCTAGATCTTGTCTGATTCATACAAGTGAAAAG 1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAGGCTGAAATCCCTCCAAAGACCTATTCALTACAAATAGCCTGGGTTGGTGGTTTTATA 1127
                                                                                                                                                                                                                                                                                                                                                                          410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      722
                                                                                                                                                                                                                                                                                                                                                                                                                                        468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATACACCATGACCACGACCATCACTCAGACCACGAGGATCACGTCAGACCATGAGCGGTC 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          887
                                                                                                                                                                                                                                                                                                                                                                                                          62
                                                                                                                                                                                                                                                                                                                                                                          351 GTTGAAGGGTTCAGAAATTACTTCAAAATATAGGCATAGATAAGATTAAAAGAATCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACCATAATCATGCTGCTTCTGGTAAAAATAAGCGAAAAGCTCTTTGCCCCAGACCATGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCAGATAGTTCAGGTAAAGATCCTAGAAACAGCCAGGGGAAAGGAGCTCACCGACCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CATGCCAGTGGTAGAAGGAATGTCAAGGACAGTGTTAGTGCTAGTGAAGTGACCTCAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTGTACAACACTGTCTCTGAAGGAACTCACTTTCTAGAGACAATAGAGACTCCAAGACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGTACAACACTGTCTCTGAAGGAACTCACTTTCTAGAGACAATAGAGAACTCCAAGACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITATGTATTCCAGAAACACAAATGAAATCCTCAGGAGTGTTTCAATGCATCAAAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4 GTCCGAAGGGTTAGAAATTACTT-AAAATATAGGCATAGATAAGATTAAAAGAATCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                        ATACACCATGACCACGACCATCACTCAGACCACGAGCATCAC-TCAGACCATGAGC-GTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTCAGACCATGAGC - ATCACTCAGACCACGAGCATCACTCTGACCATGATCATCACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          =
=
=
                                                                                                                                                                                                                 1013,
1023,
                                                                                                                                                                                                                                                                                                          Score 694.2; DB 14; Length 1032;
Pred. No. 3.1e-166;
0; Mismatches 83; Indels 6;
                                                                                                                                                                                             NAME/KEY: misc_feature
LOCATION: 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012,
LOCATION: 1014, 1015, 1016, 1017, 1018, 1019, 1020, 1021, 1022,
LOCATION: 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032
OTHER INFORMATION: n = A,T,C or G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <u>-</u>
--
FILE REFERENCE: MRI-049
CURRENT APPLICATION NUMBER: US/10/198,846
CURRENT FILING DATE: 2002-07-18
PRIOR APPLICATION NUMBER: 60/306,220
PRIOR FILING DATE: 2001-07-18
                                                                                                  4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      _
=
=
=
=
=
                                                                           NUMBER OF SEQ ID NOS: 14084
SOFTWARE: FastSEQ for Windows Version
SEQ ID NO 13805
                                                                                                                                                                                                                                                                                                          tch 20.1%; al Similarity 90.0%; 800; Conservative (
                                                                                                                                                               ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                              ; OTHER INFURMATE
US-10-198-846-13805
                                                                                                                               LENGTH: 1032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              708
                                                                                                                                                 TYPE: DNA
                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                            Best Local
Matches 8(
                                                                                                                                                                                FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             οg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \tilde{\Omega}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δŽ
                                                                                                                                                                                                                                                                                                                                                                          δã
                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δy
```

1238

Gaps

ï

69

1358

1418

249

```
2964 ATTAAACATTTTTGTCAGGATTATTTCCCGTAAAAACGTAGTGAGCACTCTCATATACTA 3023
GIICIGIAIGITICAGGGAAAAIGICITIAAIGCITITICAAGAACIAACACAGITAIT 2724
                                                                                                                                                               2905 TTAGAGGGGAGAAATTTAGAATTAAGTA-TAAAAAGGCAGAATTAGTATAGAGTACATTC 2963
                                                                       CCIATACTGGATTTTAGGTCTCTGAAGAACTGCTGGTGTTTAGGAATAAGAATGTGCATG 2784
                                                                                                          1156 CCTATACTGGATTTTAGGTCTCTGAAGAACTG-TGGTGTTTAGGAATAAGAATGTGCATG 1214
                                                                                                                                                                                                                    2845 GAAGAATCTGAGAATTGGGGAGGCATAGATTCTTATAAAAATCACAAAATTTGTTAAA 2904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       182 TATTCCTATACTGGATTTTAGGTCTCTGAAGAACTGCTGGTGTTTAGGAATAAGAATGTG 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2721 TATTCCTATACTGGATTTTAGGTCTCTGAAGAACTGCTGGTGTTTAGGAATAAGAATGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2541 TGTTACAAAGTCAGTTAAAGGTACGTTTTAATATTTAAGTTATTCTATCTTGGAGATAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 TGTTACAAAAGTCAGTTAAAAGGTACGTTTTAATATTTTAAAGTTATTCTTGGAGATAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACATGITCIGTATGITTCAGGGAAAATGICTTTAATGCITTTCAAGAACTAACACAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               122 ACATGTTCTGTATGTTTCAGGGAAAAATGTCTTTAATGCTTTTTCAAGAACTAACACGT
                                                                                                                                              AAGCCTAAAATACCAAGAAAGCTTATACTGAATTTAAAGCAAAAGAAATAAAGGAGAAAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2021, Application US/09867701
Sequence 2021, Application US/09867701
GENERAL INFORMATION:
APPLICANT: Adjace, Paul A.
APPLICANT: Harlocker, Susan L.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY
TITLE OF INVENTION: ADD DIAGNOSIS OF OVARIAN CANCER
FILL REFERENCE: 210121.497
CURRENT APPLICATION NUMBER: US/09/867,701
CURRENT FILING DATE: 2001-05-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 10; Length 483;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11.7%; Score 404.8; DB 10; 92.1%; Pred. No. 1.2e-92; cive 0; Mismatches 35;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT FILING DATE: 2001-05-29
NUMBER OF SEQ ID NOS: 10912
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOCATION: (1)...(483)
OTHER INFORMATION: n = A,T,C or G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1450 TCGTGTCTTTACTT 1463
                                                                                                                                                                                                                                                                                                                                                                                                                                        3024 ATTAGTGTACATTT 3037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity 92.1
Matches 444; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 10
US-09-867-701-2021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO 2021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2661
 2665
                                                                       2725
                                                                                                                                              2785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δy
                          g
                                                                      Qγ
                                                                                                      g
                                                                                                                                              QΫ
                                                                                                                                                                            d
                                                                                                                                                                                                                    QΫ
                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                          QΫ́
                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                        \Omega Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2545 ACAAAGICAGITAAAGGIACGITITIAAITITTAAGITATTCIATCTTGGAGATAAAATCT 2604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2425 GTAGCTTAAAAAGTTGTCATAGTTTCAGTAGGTCATAGGGAGATGAGTTTGTATGCTGTA 2484
                                                      CAGCCTGCAGTCTTGGAAGAAGAAGAGGTCATGATAGCTCATGCTCATCCACAGGAAGTC 1718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  682 ITTTAAAGGTACCTGAAATGCTGCACAATGATGCTAGTGACCATGGATGTAGCCGCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2305 GGTATTTCTTTTACAGAATGCTGGGATGCTTTTTGGGTTTTTGGAATTATGTTACTTATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2365 CCATATTTGAACATAAAATCGTGTTTCGTATAAATTTCTAGTTAAGGTTTAAATGCTAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTATGTGCAATTCACCGGTATTACCAGTTTATGTAAACAAGAGATTTGGCATGACAT
 TACAATGAATATGTACCCAGAGGGTGCAAGAATAAATGCCATTCACATTTCCACGA 1774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2245 ITGATATGGTACCTGAAATGCTGCACAATGATGCTAGTGACCATGGATGTAGCCGCTGGG
                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                   AND METHODS
PREVENTION, AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 14; Length 1598;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                 DEBEKENT INVOKANIALON

APPLICANT: Xu, Yongyao

APPLICANT: Xu, Yongyao

APPLICANT: Wang, Youzhan

APPLICANT: Wang, Youzhan

APPLICANT: Greinmann, Katheen

APPLICANT: Greinmann, Katheen

TITLE OF INVENTION: NOVEL GENES, COMPOSITIONS, KITS, AND

TITLE OF INVENTION: THERAPY OF BREAST CANCER

FILE REFERENCE: MRI-049

CURRENT APPLICATION NUMBER: US/10/198,846

CURRENT FILING DATE: 2002-07-18

PRIOR FILING DATE: 2001-07-18

NUMBER OF SEQ ID NOS: 14084

SOFTWARE: FESSES FOR WINGOWS VERSION 4.0

SEQ ID NO 11215

LENGTH: 1598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 578.4; DB 14;
Pred. No. 1.5e-136;
0; Mismatches 56;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | NAME/KEY: misc_feature
| LOCATION: 1594, 1595, 1596, 1597, 1598
| OTHER INFORMATION: n = A,T,C or G
| US-10-198-846-11215
                                                                                                                                                                                                                                                        Sequence 11215, Application US/10198846 Publication No. US20030099974A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 16.7%;
Best Local Similarity 91.3%;
Matches 725; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Homo sapiens
                                                                                                                                                                                                                                       -10-198-846-11215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2605 (
                                                      1659
                                                                                                                             1719
                                                                                          490
                                                                                                                                                                 550
                    430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ΩĢ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ŏ
                                                                                          d
                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QY
                    움
                                                        ð
                                                                                                                                                           g
```

g

g δŽ g δŽ P P

Q.Y

δŽ

```
2742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2803 AAGCTTATACTGAAITTAAGCAAAGAAATAAAGGAGAAAAGAGAAATCTGAGAATTGG 2862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2863 GGAGGCATAGATTCTTATAAAATCACAAAATTTGTTGTAAATTAGAGGGGAGAAATTTA 2922
                                      2863 GGAGGCATAGATTCTTATAAAAATCACAAAATTTGTTGTAAATTTAGAGGGGAGAAATTTA 2922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       115 TCTCTGAAGAACTGCTGGTGTTTAGGAATAAGAATGTGCTGCATGAAGACTAAAAATACAAGA 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            L55 AAGCTTATACTGAATTTAAGCAAAGAAATAAAGGAGAAAAGAAGAAGAAATCTGAGAATTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2563 ACGITTTAATATTTAAGTTATTCTATCTTGGAGATAAAATCTGTATGTGCAATTCACCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2623 TATTACCAGTTTATTATGTAAACAAGAGATTTGGCATGACATGTTCTGTATGTTTCAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2683 AAAAATGTCTTTAATGCTTTTTCAAGAACTAACACAGTTATTCCTATACTGGATTTTAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2743 TCTCTGAAGAACTGCTGGTGTTTAGGAATAAGAATGTGCATGAAGCCTAAAATACCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Mitcham, Jennifer
APPLICANT: Wang, Tongtong
APPLICANT: Mong, Tongtong
APPLICANT: Mong, Tongtong
APPLICANT: Mong, Tongtong
APPLICANT: Mong, Tongtong
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF BREAST CANCER
FILE REFERENCE: 210121, 49106
CURRENT APPLICATION NUMBER: US/09/910,689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 395;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 9;
                                                                                                                         GAATTAAGTATAAAAAGGCAGAATTAGTATAGAGT 2957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAATTAAGTATAAAAGGCAGAATTAGTATAGAGT 2957
                                                                                                                                              Score 390.8; DB 9
Pred. No. 3.8e-89;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                 Sequence 94, Application US/09910689 Patent No. US20020081609A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LOCATION: 9
COTHER INFORMATION: n = A,T,C or G
US-09-910-689-94
                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Jiang, Yuqiu
APPLICANT: Houghton, Raymond L.
APPLICANT: Mitcham, Jennifer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11.3%;
                                                                                                                                                                                                                                                                            Patent No. US2002002005
BATENT INFORMATION:
APPLICANT: Dillon, Davin C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 11.35
Best Local Similarity 99.25
Matches 392; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: misc_feature
                                                                                                                                                                                                                            RESULT 12
US-09-910-689-94/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2923
                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
                                                                                                                         2923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  35
                                                                             95
                                                                                                                                                                35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ΩŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                  δŽ
                                                                           셤
                                                                                                                       QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGCTTATACTGAATTTAAGCAAAGAAATAAAGGAGAAAAAAGAGAAGAATCTGAGAATTGG 2862
                                                                                                                                                                                                                                                                   2958 ACATTCATTAAACATTTTTGTCAGGATTATTTCCCGTAAAAACGTAGTGAGCACTCTCAT 3017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2623 TATTACCAGTTTATTATGTAAACAAGAGATTTGGCATGACATGTTCTGTATGTTCAGGG 2682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTCTGAAGAACTGCTGGTGTTTAGGAATAAGAATGTGCATGAAGCCTAAAATACCAAGA 2802
                   CATGAAGCCTAAAATACCAAGAAAGCTTATACTGAATTTAAGCAAAGAAATAAAGGAGAA 2840
                                                                                                   8841 AAGAGAAGAATC--TGAGAATTGGGGAGGCATAGATTCTTATAAAAATCACAAAATTTGT 2898
                                                                                                                                                                                   2899 TGTAAA-TTAGAGGGGAGAAATTTAGAATTAAGTATAAAAAGGCAGAATTAGTATAGAGT 2957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                            421
                                           242 CATGAAGCTAAAATACCAAGAAAGCTTATACTGAATTTAAGCAAAGAAAATAAAGGAGAA 301
                                                                                                                                                                                                                                                                                         2563 ACGTTTTAATATTTAAGTTATTCTATCTTGGAGATAAAATCTGTATGTGCAATTCACCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   335 TATTACCAGTITATTATGTAAACAAGAGATTTGGCATGACATGTTCTGTATGTTTCAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2683 AAAAATGICIIITAAIGCIIIITCAAGAACIAACACAGIIAIICCIAIACIGGAIIIIIAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 395;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         THE THERAPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 11.3%; Score 390.8; DB 9;
Best Local Similarity 99.2%; Pred. No. 3.8e-89;
Msmatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Wang, TongTong
APPLICANT: Wang, TongTong
ATTLE OF INVENTION: COMPOSITIONS AND METHODS FOR
TITLE OF INVENTION: DIAGNOSIS OF BREAST CANCER
FILE REFERENCE: 210121.491C5
CURRENT APPLICATION NUMBER: US/09/778,320
CURRENT FILING DATE: 2001-02-06
NUMBER OF SEQ ID NOS: 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 94, Application US/09778320 Patent No. US20010034052A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LOCATION: (1)...(395)
OTHER INFORMATION: n = A,T,C or G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ü
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dillon, Davin C.
Day, Craig H.
Jiang, Yugiu
Houghton, Raymond L.
Mitcham, Jennifer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: misc_feature LOCATION: (1)...(395)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA
ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                     AT 3019
                                                                                                                                                                                                                                                                                                                                                                                      482 AT 483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ·09-778-320-94/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-778-320-94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGIH: 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: 1
                                                                                                                                                                                                                                                                                                                                                     3018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2803
                   2781
```

2802

ä g ζŽ ρp Q_{Y} g δŽ d ŏ

96

```
US-09-827-669-78
                                                                                                                                                                    TYPE: DNA
                                                                                                                                                                                                     FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                  \Omega
                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  \nabla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q\bar{Q}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2743 TCTCTGAAGAACTGCTGGTGTTTAGGAATAAGAATGTGCATGAAGCCTAAAATACCAAGA 2802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2863 GGAGGCATAGATTCTTATAAAATCACAAAATTTGTTGTAAATTAGAGGGGAGAAATTTA 2922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95 GGAGGCATAGATTCTTATAAAATCACAAAATTTGTTGTAAATTAGAGGGGAAAAATTTA 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  155 AAGCITATACIGAATITAAGCAAAGAATAAAGGAGAAAAGAGAAAGGAAATIGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2563 ACGTTTTAATATTTTAAGTTATTCTATCTTGGAGATAAAATCTGTATGTGCAATTCACCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              395 ACGITITAATAITITAAGITAITCIAICTIGGAGAIAAAAICIGIAIGIGCAAIICACCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2623 TATTACCAGTITALITATGTAAACAAGAGATTTGGCATGACATGTTCTGTATGTTCAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2683 AAAAATGTCTTTAATGCTTTTTCAAGAACTAACACAGTTATTCCTATACTGGATTTTAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                      APPLICANT: Fanger, Gary R.
APPLICANT: Retter, Marc W.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND TITLE OF INVENTION: DIAGNOSIS OF BREAST CANCER FILE REFERENCE: 210121.49107
CURRENT APPLICATION NUMBER: US/10/010,742
CURRENT FLING DATE: 2001-11-30
NUMBER OF SEQ ID NOS: 307
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 13; Length 395;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2923 GAATTAAGTATAAAAGGCAGAATTAGTATAGAGT 2957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 390.8; DB 1
Pred. No. 3.8e-89;
0; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 14
US-09-918-995-22272
US-09-918-995-2272, Application US/09918995; Publication No. US20030073623A1
; GENERAL INFORMATION:
                                                             APPLICANT: Dillon, Davin C.
APPLICANT: Day, Craig H.
APPLICANT: Jiang, Yuqiu
APPLICANT: Mitcham, Jennifer L.
APPLICANT: Mitcham, Jennifer L.
APPLICANT: Mongy, Tongtong
APPLICANT: Mongy, Tongtong
APPLICANT: Menily Patricia D.
APPLICANT: Bennington, Angela Ann
APPLICANT: Zehentner, Barbara
                 Sequence 94, Application US/10010742
Publication No. US20020146727A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; LOCATION: 9
; OTHER INFORMATION: n = A,T,C or G
US-10-010-742-94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               392; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                GENERAL INFORMATION:
US-10-010-742-94/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 392,
                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ă
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ω
```

```
3172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3055 AAATCTAAATATTTAATGAATTCAAGCAATATA-CACTTGACCAAGAAATTGGAATTT 3113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3173 GACTGGGTTATTGCCAAGTTATATATCACCAAAAGCTGTATGACTGGATGTTCTGGTTAC 3232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3293 ACTAAGTATCATTTGATTCGATTCAGAAAGTACTTTGATATCTCTCAGTGCTTCAGTGCT 3352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2938 AGGCAGAATTAGTATAGAGTACATTCATTAAACATTTTTGTCAGGATTATTTCCCGTAAA 2997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2998 AACGTAGTGAGCAC-TCTCATATACTAATT--AGTGTACATTTAACTTTGTATAATACAG 3054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     219 CAAAANGTTCGTGCGGG-TATATACCAGATGAGTACAGTGAGTACAGTGTTTTATGTATCACCA 277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                278 GACTGGGTTATTGCCAAGTTATATCACCAAAAGCTGTATGACTGGATGTTCTGGTTAC 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3114 CAAAATGTTCGTGCGGGTTATATACCAGATGAGTACAGTGAGTAG-TTTATGTATCACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 504;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3353 ATCATIGIGAGCAATIGICITIAIATACGGIACIGIAGCCAIACIA 3398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    458 ATCATTGTGAGCAATGGGCTTTATATACGGTACTGTAGCCATACTA 503
TITLE OF INVENTION: NOVEL NUCLEIC ACID SEQUENCES OBTAINED
TITLE OF INVENTION: FROM VARIOUS CDNA LIBRARIES
FILE REFERENCE: 20411-756
CURRENT APPLICATION NUMER: US/09/918,995
CURRENT FILING DATE: 2001-07-30
FRIOR APPLICATION NUMBER: US/09/235,076
FRIOR FILING DATE: 1999-01-20
NUMBER OF SEQ ID NOS: 38054
SOFTWARE: FastSEQ for Windows Version 3.0
LENGTH: 504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: METASTATIC BREAST AND COLON CANCER TITLE OF INVENTION: REGULATED GENES FILE REFERENCE: 200130.460
CURRENT APPLICATION NUMBER: US/09/827,669
CURRENT FILING DATE: 2001-04-06
PRIOR APPLICATION NUMBER: 09/417,615
PRIOR APPLICATION NUMBER: 1999-10-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQ ID NOS: 85
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; Sequence 78, Application US/09827669; Patent No. US20020009739A1
                                                                                                                                                                                                                                                                                                                                                           ; NAME/KEY: misc_feature
; JCCATION: (1)...(504)
; CTHER INYORMATION: n = A,T,C or G
US-09-9188-995-22772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 451; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; GENERAL INFORMATION:
; APPLICANT: Giese, Klaus
                                                                                                                                                                                                                                                                                                              ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
```

; LENGTH: 385 ; TYPE: DNA ; ORGANISM: Homo sapien US-09-827-669-78

```
1;
                                        2453 TAGGTCATAGGGAGATGAGTTTGTATGCTGTACTATGCAGCGTTTAAAGTTAGTGGGTTT 2512
                                                                                2513 TGTGATTTTGTATTGAATATTGCTGTCTGTTACAAAGTCAGTTAAAGGTACGTTTAAAT 2572
                                                                                                                                                               2633 TTATTATGRAACAAGAGATTGGCATGACATGTTCTGTATGTTTCAGGGAAAATGTCT 2692
                                                                                                                                                                                                     2693 TTAATGCTTTTTCAAGAACTAACACAGTTATTCCTATACTGGATTTTAGGTCTCTGAAGA 2752
                                                                                          28
                                                  Gaps
                     2;
Query Match
10.4%; Score 360; DB 9; Length 385;
Best Local Similarity 98.2%; Pred. No. 2.7e-81;
Matches 375; Conservative 0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                   δ
                                                           g
                                                                                δ
                                                                                                 qq
                                                                                                                      ØΫ
                                                                                                                                         a
D
                                                                                                                                                               ΩŽ
                                                                                                                                                                                 g
                                                                                                                                                                                                     Qγ
                                                                                                                                                                                                                        Dp
                                                                                                                                                                                                                                            QΫ́
                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                      QΫ
```

Search completed: September 12, 2003, 22:12:41 Job time : 804.001 secs

```
CURRENT APPLICATION DATA.

APPLICATION NUMBER: US/08/311,023
FILING DATE: 22-SEP-1994
ATTORNEY AGENT INFORMATION:
NAME: PATCH, Andrew J.
REGISTRATION NUMBER: Reg. No. 5693465 32,925
REFERENCE/DOCRET NUMBER: WCM.56
TELEPHONE: 703/521-2297
TELEPHONE: 703/685-0573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: 703/685-0573
TELEX: 248425
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 1310 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
MOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 99.8
Matches 1285; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; LOCATION:
US-08-311-023-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Appli
                                                                                                                             September 12, 2003, 16:38:39; Search time 126.286 Seconds (without alignments) 7926.909 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                           US-09-642-034-4
2268
1 atggcgaggaagttatctgt......tgtttcgtataaatttctag 2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 3, A
Sequence 38,
Sequence 64,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 64,
Sequence 64,
Sequence 65,
Sequence 65,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           58,
58,
66,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 6
Sequence 6
Sequence 6
Sequence 6
Sequence 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 5
Sequence 5
Sequence 5
Sequence 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 6
Sequence 6
Sequence 6
Sequence 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 5
Sequence 5
Sequence 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /cgn2_6/ptcdata/2/ina/5A_COMB.seq:*
/cgn2_6/ptcdata/2/ina/5B_COMB.seq:*
/cgn2_6/ptcdata/2/ina/6B_COMB.seq:*
/cgn2_6/ptcdata/2/ina/6B_COMB.seq:*
/cgn2_6/ptcdata/2/ina/PcTUS_COMB.seq:*
/cgn2_6/ptcdata/2/ina/PcTUS_cOMB.seq:*
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-08-990-571-64
US-09-528-784A-64
US-09-50-900-571-65
US-09-50-900-571-65
US-09-50-900-571-65
US-09-50-900-571-60
US-09-50-908A-60
US-09-50-708A-60
US-09-50-708A-60
US-09-50-708A-60
US-09-50-908A-63
US-09-50-908A-63
US-09-50-908A-63
US-09-50-908A-63
US-09-50-908A-63
US-09-50-908A-63
US-09-50-908A-63
US-09-50-908A-64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-990-571-59
US-09-528-784A-59
US-09-569-098A-59
                                                                                                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-569-098A-66
US-09-569-098A-67
                                                                                                                                                                                                                                                                                                                                                                                          569978 seqs, 220691566 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                      OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                               Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Issued_Patents_NA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query
Match Length DB
                                                                                                                                                                                                                                                                                                                         IDENTITY_NUC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                   Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Database:
                                                                                                                                                                                                                                                                           Sequence:
                                                                                                                                                                                                                                                                                                                                                                                            Searched:
                                                                                                                                    Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Result
No.
```

PatentIn Release #1.0, Version #1.25 (EPO)

SOFTWARE:

5

Gaps 5

55.7%; Score 1263; DB 1; Length 1310; 99.8%; Pred. No. 0; Live 0; Mismatches 0; Indels 2

1..1293

NAME/KEY:

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

7	1, Appl	1, App]	2. App	2. App	2, App	Appli	2. App	Appl	744.	5. Annli	744	Appli	42 42	קקה ,	, Appt	42, Appl					
9	9																	9			
Sequence	Sequence	Sequence	Segmence	Segmence	Sequence	Sequence	Segmence	Sequence	Sequence	Semence	Semience	Segmence	Sections		seduence	Sednence	Sequence	Sequence	fe.		
e du	in Section	Squ(, de	50.0	adu(50116	, di	20116	1 6	1	1		1 2	7	ž,	ğ,	ğae	gae	~ OF		
Š	ű	Š	Ů.	ď.	ŭ	Ň	v.	i v.	ν	í ď.	ŭ	i č	ŭ	Šċ	, ດັ	š	Š	Š	COUI		
																			BEHAVIOUR		
	_	-		~	~						^	,	^						THE		
-61	A-61	A-61	-62	9-6	A-62	'n	-42	'n	-42	5 - 5	A-42	US-09-528-784A-5	-09-528-784b-42	ř	n -	9-098A-42	φ	9-			
571	-784A	-098A	-571	784	1860	258	258	571	171	142	142	784)	7847	# WED/ 076 60-	200	1987	258.	571.	II II		
-06	28-	569-	-066	28-	-69	45-	15-	-06	-0	3 6		1 8	, d	2 0	n (20.0	45-	-06	las		
6-8	ഹ	'n	9-9	9-5	9-5	· φ	8-8	6-6	ō	1		ic.	, ic	יי יי	ו ו ו	n	٣	9	ood oug-		
S-0	0	S-09	us-08	S-0	S-0	S-08-845-258-5	0-S	0-5	2-5	2-0	0-5	0-5	0	5 6	0 6	-60-8	t	S-08	okw ckw r D moor moor		
b	SD	ns	b	Ď	ūS	Þ	Þ	Ь	5 🖹	5 🖹	Ė	Ë	Ē	2 5	5	5	an	Ď	Application US/08311023 693465 693465 FORMATION: FORMATION: MANNING, David Lockwood GEE, Julia Margaret GEE, Julia Margaret FOREN, Christopher Douglas INVENTION: METHODS FOR PREDICTING INVENTION: BREAST TUMOURS SEQUENCES: FORMY 2 THOMOURS ALINGTON ALINGTON ALINGTON ALINGTON FORMY FORM: FORMY F	, ,	
							m	m	. (*	4	4	4	4	۲ - <	# -	4	m	m	cation US/0835 four: NNING, David HOLSON, Robe E, Julia Marg EN, Christop FITON: METHOD FITON: METHO	TOW DO COMMETTED	1
410	410	410	416	416	416	27	27	27	27	271	27	27	27	- 5	7 6	7/7	821	821	US Da Da hri Mri Mri Mri Mri Mri Mri Mri Mri Mri M	7 6	200
						-	Н	-		-	- ۱	-	٠,	1 -	٠,	٠,		-1	Application US 693465 CNRATION: NANNING, Da INTERLIGAN, GEE, JULIA GREE, JULIA INVENTION: ME INVENTION: BR INVENTION: BR INVENTION: BR INVENTION: BR INVENTION: BR INVENTION: BR AT INGTON VA 1745 SOUTH 23 ATINGTON VA 2202 READABLE FORM: READABLE FORM:) } }	2
9	9	9	9.	9	9	9	9	9	ع	ب و	ع	9	٧	, u	٠,٠	۰۰	٥	ø,	cat 55 10N CHOIN CHOIN CHOIN EEEN FOUL Soul Soul BLE	1 20	200
7	7	7	7	N	~	7	2	~	· C	N	· C	2	C	10	4 (7	~	7	1. Applicati 693465 CORMATION: CORMATION: NICHOL GEE, J GEE, J GREN, INVENTION INVENTION SEQUENCE ADD BE: AT SOUN ATINGTON ATINGTON ATINGTON CORMATINGTON CORMATI	į	-
	œ	ω	σ	œ	ω	æ	œ	8	- α		- α	. «	α	ο	o c		ω	œ		į	•
59.	σ	g	g	g	σ	σ	σ	σ	σ	i on	o.	5	σ	10	n c		56.	59.	0023 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	1 1	
																			HEBULT 1 Sequence 1, Application US/08311023 Patent No. 569346 GENERAL INFORMATION: GENERAL INFORMATION: APPLICANT: MANNING, David Lockw APPLICANT: MICHOLSON, RODERT IN APPLICANT: GEE, Julia MATGATE IN TITLE OF INVENTION: METHODS FOR TITLE OF INVENTION: METHODS FOR TITLE OF INVENTION: METHODS FOR TITLE OF INVENTION: BREAST TUMON NUMBER OF SEQUENCES: 3 CORRESPONDENCE ADDRESS: ADDRESSEE: Young & Thompson STREET: 745 SOUTH 23TG STREET: CITY: ARINGTON STREET: VANG COUNTRY: USA ZIP: 22202 COMPUTER: REABBLE FORM: MEDIUM TYPE: Flormy disk	COMPITTED	2
28	58	30	31	32	33	34	35	36	37	38	000	40	41	10				45	RESULT 1 196-08:31 Sequent Sequent Patent Pa	, ~	•
O	Ö						O		U		c		٠			Ü		Ö	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
																			MD	٠.	٠

đ

δÃ

```
328 CGTCACTCAGACCATGAGCATCACTCAGACCACGAGCATCACTCTGACCATGATCATCAC 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             268 ATCCATATACACCATGACCACGACCATCACTCAGACCACGAGCATCACTCAGACCATGAG 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             328 CGTCACTCAGACCATGAGCATCACTCAGACCACGAGCATCACTCTGACCATGATCATCAC 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ÷
                                                                                                                                                                                                                                                                                                       ó;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-569-098A-64/C

Sequence 64, Application US/09569098A

Patent No. 6569433

SERNEAL INFORMATION:
APPLICANT: Reed, Steven G.
APPLICANT: Lodes, Michael J.
APPLICANT: Monelli, Paul R.
APPLICANT: Monelli, Patricia D.
APPLICANT: Seath, Paul R.
APPLICANT: Serist, Heather
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THE DIAGNOSIS
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THE DIAGNOSIS
TITLE OF INVENTION: AND TREATMENT OF B. MICROTI INFECTION
FILE REFERENCE: 210121.426C5
CURRENT APPLICATION NUMBER: US/09/569,098A

CURRENT APPLICATION NOS: 110

NUMBER OF SEQ ID NOS: 110

SOCTIVENT FEATER FASTER OF OF WINDOWS VERSION 3:0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 59.8; DB 4; Length 285; Pred. No. 3.2e-07; 0; Mismatches 47; Indels
                                                                                                                                                                                                                                                               Length 285;
TITLE OF INVENTION: AND TREATMENT OF B. MICROTI INFECTION CURRENT APPLICATION NUMBER: US/09/528,784A CURRENT FILING DATE: 2000-03-17 NUMBER OF SEQ ID NOS: 90 SOFTWARE: EastSEQ for Windows Version 3.0 SEQ ID NO 64 LENGTH: 285
                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                       47;
                                                                                                                                                                                                                                                             Score 59.8; DB 4;
Pred. No. 3.2e-07;
0; Mismatches 47;
                                                                                                                                                                                                                                                             2.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   388 TCTCACCATAATCAT 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    388 TCTCACCATAATCAT 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           72 TAGGCCCACCAGCTT 58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         72 TAGGCCCACCAGCTT 58
                                                                                                                                                                                                                                                                                 Best Local Similarity 65.2 Matches 88; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   88; Conservative
                                                                                                                                                                           TYPE: DNA
ORGANISM: Babesia microti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: DNA
ORGANISM: Babesia microti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 88; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 7
US-08-990-571-65/c
                                                                                                                                                                                                                     US-09-528-784A-64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; OKGANISM: BAD
US-09-569-098A-64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 64
                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                     연
                                                                                                                                                                                                                                                                                                                                                                                                                                   δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΛ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                 Patent No. 021497.4
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Reed, Steven G. et al.
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THE DIAGNOSIS AND TREATMENT OF B. I
NUMBER OF SEQUENCES: 79
CORRESPONDENCE ADDRESS:
ADDRESSEE: SEED AND BERRY
STREET: 6300 Columbia Center, 701 Fifth Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      268 ATCCATATACACCATGACCACGACCATCACTCAGACCACGAGCATCACTCAGACCATGAG 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  328 CGTCACTCAGACCATGAGCATCACTCAGACCACGAGCATCACTCTGACCATGATCATCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2.6%; Score 59.8; DB 3; Length 285; 65.2%; Pred. No. 3.2e-07; Live 0; Mismatches 47; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 64, Application US/09528784A
Petent No. 6451315
GENERAL INFORMATION:
APPLICANT: Read, Steven G.
APPLICANT: Lodes, Michael J.
APPLICANT: Houghton, Raymond L.
APPLICANT: Sleath, Paul R.
APPLICANT: APPLICANT: Confeill, Paul B.
APPLICANT: APPLICANT: COMPOUNDS AND METHODS FOR THE DIAGNOSIS
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THE DIAGNOSIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: Patentin Release #1.0, Version #1.30
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DAR:
APPLICATION NOMER: US/08/990,571
FILING DATE: 11-DEC-1997
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: MAKI, DAYA J.
REGISTRATION UMBER: 31,392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: 210121.426C2 TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                      Sequence 64, Application US/08990571 Patent No. 6214971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: (206) 622-4900
TELEFAX: (206) 622-6031
INFORMATION FOR SEQ ID NO: 64:
SEQUENCE CHARACTERISTICS:
LENGTH: 285 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     388 TCTCACCATAATCAT 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TAGGCCCACCAGCTT 58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 65.2<sup>5</sup>
Matches 88; Conservative
                                                                                                                                                                                                                                                                                                                                                                 CITY: Seattle
STATE: Washington
COUNTRY: USA
ZIP: 98104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    linear
                        2131 C 2131
                                                                1632 C 1632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 5
US-09-528-784A-64/c
                                                                                                                                                US-08-990-571-64/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
```

ă

ğ

a

```
Sequence 60, Application US/08990571
Patent No. 6214971
Patent No. 6214971
Patent No. 6214971
APPLICANT: Reed, Steven G. et al.
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THE DIAGNOSIS AND TREATMENT OF NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                            268 ATCCATATACACCATGACCACGACCATCACTCAGACCACGAGCATCACTCAGACCATGAG 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           268 ATCCATATACACCATGACCACGACCATCACTCAGACCACGAGCATCACTCAGACCATGAG 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              328 CGTCACTCAGACCAIGAGCAICACICAGACCACGAGCAICACTCTGACCAIGAICAICAC 387
                                                                                                                                                                                                                                                                                            328 CGTCACTCAGACCATGAGCATCACTCAGACCACGAGCATCACTCTGACCATGATCATACAC 387
                                                                                                                                                                                                                                                                                                                     ·;
                                                                                                Score 59.8; DB 4; Length 342;
Pred. No. 3.6e-07;
0; Mismatches 47; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 59.8; DB 4; Length 342;
Pred. No. 3.6e-07;
0; Mismatches 47; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INCORMATION:

APPLICANT: Reed, Steven G.

APPLICANT: Lodes, Michael J.

APPLICANT: Lodes, Michael J.

APPLICANT: Sleath, Raymond L.

APPLICANT: Steath, Raymond L.

APPLICANT: Moneill, Patricia D.

APPLICANT: Homer, Mary

APPLICANT: Secrist, Heather

TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THE DIAGNOSIS

TITLE OF INVENTION: AND TREATMENT OF B. MICROTI INFECTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILE REFERENCE: 21012.1.4265
CURRENT APPLICATION NUMBER: US/09/569,098A
CURRENT FILING DATE: 2000-05-10
NUMBER OF SEQ ID NOS: 110
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 65
LENGTH: 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 65, Application US/09569098A Patent No. 6569433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 2.6%;
Best Local Similarity 65.2%;
Matches 88; Conservative
                                                                                                                                                                                                                                                                                                                                                                                     388 TCTCACCATAATCAT 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          388 TCTCACCATAATCAT 402
                                                                                                Query Match 2.6%;
Best Local Similarity 65.2%;
Matches 88; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: SEED AND BERRY
                                                                                                                                                                                                                                                                                                                                                                                                                                    90 TAGGCCCACCAGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TAGGCCCACCAGCTT
                             ; ORGANISM: Babesia microti
US-09-528-784A-65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Babesia microti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-569-098A-65/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-990-571-60/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-569-098A-65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 10
                                                                                                                                                                                                   δž
                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                            δğ
                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                        δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                     В.
                                                                  APPLICANT: Reed, Steven G. et al.
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THE DIAGNOSIS AND TREATMENT OF TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THE DIAGNOSIS AND TREATMENT OF CORRESPONDENCE ADDRESS: 79
CORRESPONDENCE ADDRESS: ADDRESSE: SEED AND BERRY
STREET: 6300 Columbia Center, 701 Fifth Avenue
CITY: Scattle
STRATE: Washington
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              328 CGTCACTCAGACCATGAGCATCACTCAGACCAGGAGCATCACTCTGACCATGATCATCAC 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   268 ATCCATATACACCATGACCACGACCATCACTCAGACCACGAGCATCACTCAGACCATGAG 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       partent No. 6451312

GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Read, Streng G.
APPLICANT: Read, Michael J.
APPLICANT: Read, Michael J.
APPLICANT: Aleath, Paul R.
APPLICANT: Aleath, Paul R.
APPLICANT: MONEJIL, PAUL R.
APPLICANT: APPLICATION NUMBER: US/09/528,784A
CURRENT FILING DATE: 2000-03-17
NUMBER OF SEQ ID NOS: 90
SOFTWARE: FastEEQ for Windows Version 3.0
SEQ ID NO 650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2.6%; Score 59.8; DB 3; Length 342;
65.2%; Pred. No. 3.6e-07;
tive 0; Mismatches 47; Indels
                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATUNG SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/990,571
FILING DATE: 11-DEC-1997
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: MAKI, DAVIÐ 7.
REGISTRATION NUMBER: 31,392
REFERENCE/DOCKET NUMBER: 210121.426C2
TELEXOMUNICARION INFORMATION:
TELEXPHONE: (206)632-4900
TELERAX: (206)682-6031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 65, Application US/09528784A Patent No. 6451315
Sequence 65, Application US/08990571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO: 65: SEQUENCE CHARACTERISTICS: LENGTH: 342 base pairs TYPE: nucleic acid STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        388 TCTCACCATAATCAT 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  90 TAGGCCCACCAGCTT 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity (
                      Patent No. 6214971
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-528-784A-65/c
                                                                                                                                                                                                                                                                                       98104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TOPOLOGY:
US-08-990-571-65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ď
```

```
268 ATCCATATACACCATGACCACGACCATCACTCAGACCACGAGCATCACTCAGACCATGAG 327
                                                                                                                                                                                                                                                                                                          Sequence 60, Application US/09569098A Patent No. 6569433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                 388 TCTCACCATAATCAT 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     388 TCTCACCATAATCAT 402
                                                                                                                                                                                                       90 TAGGCCCACCAGCTT 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           90 raggeceaecerr 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA ORGANISM: Babesia microti
                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: Reed, Steven G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: Seattle
STATE: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY: USA
                                                                                                                                                                                                                                                                  RESULT 12
US-09-569-098A-60/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-08-990-571-63/C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             98104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-569-098A-60
                                          g
                                                                                                                         qq
                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÿ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                    δŏ
                                                                                                                                                                 ΩŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ă
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     268 ATCCATATACACCATGACCACGACCATCACTCAGACCACGAGCATCACTCAGACCATGAG 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            328 CGTCACTCAGACCATGAGCATCACTCAGACCACGAGCATCACTCTGACCATGATCATCAC 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 60. Application US/09528784A

Sequence 60. Application US/09528784A

Sequence 60. Application US/09528784A

GENERAL INFORMATION:

APPLICANT: Reed, Steven G.

APPLICANT: Bleath, Paul R.

APPLICANT: Bleath, Paul R.

APPLICANT: APPLICANT: AND TREATMENT OF B. MICROTI INFECTION

TITLE OF INVENTION: AND TREATMENT OF B. MICROTI INFECTION

FILE REFERENCE: 210121.42664

CURRENT APPLICATION NUMBER: US/09/528,784A

CURRENT FILING DATE: 2000-03-17

NUMBER OF SEQ ID NOS: 90

SOFTWARE: FastSEQ for Windows Version 3.0

SEQ ID NO 60

LENGTH: 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 2.6%; Score 59.8; DB 4; Length 351; Best Local Similarity 65.2%; Pred. No. 3.6e-07; Matches 88; Conservative 0; Mismatches 47; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               47; Indels
                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/990,571
FILING DATE: 11-DEC-1997
CLASSIFICATION:
6300 Columbia Center, 701 Fifth Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 2.6%; Score 59.8; DB 3; Best Local Similarity 65.2%; Pred. No. 3.6e-07; Matches 88; Conservative 0; Mismatches 47;
                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: Maki, David J.
REGISTRATION NUMBER: 31,392
REFERENCE/DOCKET NUMBER: 210121.426C2
REFERENCE/COCKET NUMBER: 210121.426C2
TELECOMMUNICATION INFORMATION:
TELEPENCE: (206)682-6031
TELEPENC: (206)682-6031
INFORMATION FOR SEQ ID NO: 60:
SEQUENCE CHARACTERISTICS:
LENGTH: 31 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  388 TCTCACCATAATCAT 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      90 TAGGCCCACCAGCTT 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
ORGANISM: Babesia microti
                  Seattle
: Washington
RY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 11
US-09-528-784A-60/c
                                                                               98104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-528-784A-60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; TOPOLOGY:
US-08-990-571-60
                                                          COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ŏ
```

```
Sequence 63, Application US/08990571
Patent No. 6214971
GENERAL INFORMATION:
CENERAL INFORMATION:
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THE DIAGNOSIS AND TREATMENT OF B
NUMBER OF SEQUENCES: 79
CORRESPONDENCE ADDRESS:
ADDRESSEE: SEED AND BERRY
STREET: 6300 Columbia Center, 701 Fifth Avenue
328 CGTCACTCAGACCATGAGCATCACTCAGACCACGAGCATCACTCTGACCATGATCAC 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              268 ATCCATATACACCATGACCACGACCATCACTCAGACCACGAGCATCACTCAGACCATGAG 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               328 CGTCACTCAGACCATGAGCATCACTCAGACCACGAGCATCACTCTGACCATGATCATCAC 387
                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Lodds, Michael J.
APPLICANT: Houghton, Raymond L.
APPLICANT: Sleath, Paul R.
APPLICANT: Sleath, Paul R.
APPLICANT: Bouchton, Raymond L.
APPLICANT: Bomer, Mary
APPLICANT: Secrist, Heather
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THE DIAGNOSIS
TITLE OF INVENTION: AND TREATMENT OF B. MICROTI INFECTION
FILE REFERENCE: 210121,42665
CURRENT APPLICANTON NUMBER: US/09/569,098A
CURRENT FILING DATE: 2000-05-10
NUMBER OF SEQ ID NOS: 110
SOGTWARE: FastERQ for Windows Version 3.0
SOGTWARE: FastERQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        47; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 2.6%; Score 59.8; DB 4; Best Local Similarity 65.2%; Fred. No. 3.6e-07; Matches 88; Conservative 0; Mismatches 47;
```

```
388 TCTCACCATAATCAT 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-569-098A-63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
    δŽ
                                 ΩĎ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             268 ATCCATATACACCATGACCACGACCATCACTCAGACCACGAGCATCACTCAGACCATGAG 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    328 CGTCACTCAGACCATGAGCATCACTCAGACCACGAGCATCACCATGACCATGATCATCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     268 ATCCATATACACCATGACCACGACCATCACTCAGACCACGAGCATCACTCAGACCATGAG 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 14

US-09-228-784A-63/C

Sequence 63, Application US/09528784A

Patent No. 6451315

GENERAL IMPORMATION:
APPLICANT: Reed, Steven G.
APPLICANT: Houghton, Raymond L.
APPLICANT: Houghton, Raymond L.
APPLICANT: MONeill, Patricia D.
TITLE OF INVENTION: COMPONINDS AND METHODS FOR THE DIAGNOSIS
TITLE OF INVENTION: AND TERATMENT OF B. MICROIL INFECTION
FILE REPRENCE: 201021.4264

CURRENT APPLICATION NUMBER: US/09/528,784A

CURRENT PILING DATE: 2000-03-17

NUMBER OF SEQ ID NOS: 90

SOFTWARE: FRASEEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2.6%; Score 59.8; DB 4; Length 356; 65.2%; Pred. No. 3.7e-07; tive 0; Mismatches 47; Indels
                                                                                                                                                                                                                                                                                                                                                                                                               Score 59.8; DB 3; Length 356; Pred. No. 3.7e-07; 0; Mismatches 47; Indels
              SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/990,571
FILING DATE: 11-DEC-1997
                                             APPLICATION ...
FILING DATE: 11-DEC-15-,
CLASSIFICATION:
ATGORNEY/AGENT INFORMATION:
NAME: Maki, David J.
REGISTRATION NUMBER: 210121.426C2
FELECOMMUNICATION INFORMATION:
FELECOMMUNICATION INFORMATION:
FELECOMMUNICATION INFORMATION:
FELECOMMUNICATION INFORMATION:
FELECOMMUNICATION INFORMATION:
FELECOMMUNICATION INFORMATION:
FELECOMMUNICATION OF SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 356 base pairs
FYPE: nucleic acid
STRANDEDNESS: single
"nPOLOGY: linear
  PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 2.6%;
Best Local Similarity 65.2%;
Matches 88; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           388 TCTCACCATAATCAT 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TAGGCCCACCAGCTT 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 65.2°
Matches 88; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: DNA
ORGANISM: Babesia microti
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: BaDe
US-09-528-784A-63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 63
LENGTH: 356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
```

ద

 $\tilde{\Omega}$

g

ò 셤

Qγ

δŽ

```
268 ATCCATATACACCATGACCACGACCATCACTCAGACCACGAGCATCACTCAGACCATGAG 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            328 CGTCACTCAGACCATGAGCATCACTCAGACCACGAGCATCACTCTGACCATGATCATCAC 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                    parente 03, Application US/09569098A

Patent No. 6569433

GENERAL INFORMATION:
APPLICANT: Reed, Steven G.
APPLICANT: Houghton, Raymond L.
APPLICANT: Houghton, Raymond L.
APPLICANT: Homer, Marry
APPLICANT: Homer, Marry
APPLICANT: Homer, Marry
APPLICANT: ADIA Secrist, Hearther
TITLE OF INVENTION: COMPOUNDS AND METHODS FOR THE DIAGNOSIS
TITLE OF INVENTION: AND TREATMENT OF B. MICROTI INFECTION
FILE REFERENCE: 210121.426625
CURRENT APPLICANT: 2000-05-10
NUMBER OF SEQ ID NOS: 110
SUFFREE: FASTSEQ for Windows Version 3.0
SEQ ID NO 63
LENGTH: 356
LENGTH: 356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2.6%; Score 59.8; DB 4; Length 356; 65.2%; Pred. No. 3.7e-07;
tive 0; Mismatches 47; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Search completed: September 12, 2003, 16:55:42 Job time: 128.286 secs
                                                                                      RESULT 15
US-09-569-098A-63/c
; Sequence 63, Application US/09569098A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    388 TCTCACCATAATCAT 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       90 TAGGCCCACCAGCTT 76
90 TAGGCCCACCAGCTT 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 65.23
Matches 88; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Babesia microti
```

```
September 12, 2003, 16:50:35; Search time 518.999 Seconds (without alignments) 10609.165 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 atggcgaggaagttatctgt......tgtttcgtataaatttctag 2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1. (1972.6. ptodata/2/pubpa/US07_pDBCOMB.seq:*
2. (1972.6. ptodata/2/pubpa/US07_pDBCOMB.seq:*
3. (1972.6. ptodata/2/pubpa/US06_NRW_PUB.seq:*
3. (1972.6. ptodata/2/pubpa/US06_NRW_PUB.seq:*
3. (1972.6. ptodata/2/pubpa/US06_NRW_PUB.seq:*
3. (1972.6. ptodata/2/pubpa/PCUB_PUBCOMB.seq:*
3. (1972.6. ptodata/2/pubpa/US08_NRW_PUB.seq:*
3. (1972.6. ptodata/2/pubpa/US08_PUBCOMB.seq:*
3. (1972.6. ptodata/2/pubpa/US08_PUBCOMB.seq:*
3. (1972.6. ptodata/2/pubpa/US09_PUBCOMB.seq:*
3. (1972.6. ptodata/2/pubpa/US108_PUBCOMB.seq:*
3. (1972.6. ptodata/2/pubpa/US108_PUBCOMB.seq:*
4. (1972.6. ptodata/2/pubpa/US108_PUBCOMB.seq:*
5. (1972.6. ptodata/2/pubpa/US108_PUBS.seq:*
6. (1972.6. ptodata/2/pubpa/US108_PUBS.seq:*
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1632420 seqs, 1213878141 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Published_Applications_NA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                        using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IDENTITY_NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                US-09-642-034-4
2268
                                                                                                                                                        OM nucleic - nucleic search,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Database
                                                                                                                                                                                                                                Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Sequence 170, App	Sequence 10007, A	Sequence 51, App.	Sequence 10321, A	Sequence 13805, A	Sequence 8490, Ap	Sequence 30283, A	Sequence 7874, Ap	Sequence 250, App	Sequence 22020, A	Sequence 14, Appl	Sequence 9288, Ap	Sequence 1455, Ap	Sequence 10373, A
Œ	US-10-171-581-170 US-10-177-293-263	US-10-198-846-10007	US-09-925-300-591	US-10-198-846-10321	US-10-198-846-13805	US-10-198-846-8490	US-09-918-995-30283	US-10-198-846-7874	US-09-920-455-250	US-09-814-353-22020	US-09-789-561-14	US-10-198-846-9288	US-10-198-846-1455	US-10-198-846-10373
	14	14	10	14	14	14	딤			12	σ	14	14	14
% Query Match Length DB	2744	3537	1193	1449	1032	909	366	902	337	4417	5330	721	504	625
% Query Match	98.0	97.9	50.3	39.7	30.6	25.5	14.8	14.6	14.1	14.1	14.1	11.8	11.2	10.6
Score	2222	2220.4	1141.4	900.4	694.2	578.4	335.6	331.8	319.2	319	319	268	253	241.2
Result No.	7 7 7	ო ₹	'n	9	7	80	σ	10	11	12	13	c 14	c 15	16

120

쉺

QY

g &

61 CTTCATGAACTAAAAGCAGCTGCTTTCCCCCAGACCACTGAGAAAATTAGTCCGAATTGG

4 4 เน่น แองอออออออ หากกดดด พพพ พี่ผ่นรี่มีสัติที่ได้ยังได้ผู้ High	App , Ap	5, A APP APP APP APP APP APP APP APP APP	App Appl Appl Appl App App 6, A 6, A Appl		1;	197
0.6 469 14 US-10-198-846-7649 Sequence 6.5 479 14 US-10-198-846-7649 Sequence 6.5 479 14 US-10-198-846-7649 Sequence 5.8 479 14 US-10-198-846-5880 Sequence 5.6 4573 10 US-0-198-846-5880 Sequence 6.6 4573 10 US-0-198-846-814 Sequence 6.6 4573 10 US-0-198-846-2814 Sequence 6.6 4573 10 US-0-198-846-285 Sequence 6.4 480 12 US-0-198-846-285 Sequence 6.4 480 12 US-0-198-846-285 Sequence 6.4 481 12 US-0-198-846-285 Sequence 6.4 481 12 US-0-198-846-285 Sequence 7.4 480 12 US-0-198-846-285 Sequence 7.5 14 US-10-198-846-285 Sequence 7.5 14 US-10-198-846-785 Sequence 7.5 14 US-10-198-846-	408, 7649	11121 11121 11121 11121 1121 1121 1121	1253, 1253, 1208, 17051, 17051, 1585, 64, A		Gaps	ATCCC ATCCC
240.8 10.6 469 14 US-10-189-846-408 Se 146.8 10.6 469 14 US-10-189-846-1957 Se 132 5 10.4 453 14 US-10-189-846-1957 Se 132 5 10.4 453 14 US-10-189-846-1957 Se 132 6 1.1598 14 US-10-189-846-1957 Se 132 6 5.6 4573 10 US-09-80-10-164-98 Se 127.6 5 6 4573 10 US-09-80-10-164-98 Se 132 6 5.6 4573 10 US-09-80-10-164-98 Se 132 6 5 6 4573 10 US-09-80-10-164-98 Se 132 6 5 6 4573 10 US-09-98 Se 132 12 US-10-180-44-85 Se 14.3 48 11 US-09-98 Se 14.3 37 12 US-09-98 Se 14.3 37 12 US-09-98 Se 15.2 4 4 4 81 12 US-09-98 Se 15.2 4 4 4 81 12 US-09-98 Se 15.2 4 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	quence	nencedularian de la composición del composición de la composición del composición de la composición de la composición de la composición del composición de la composición del composición del composición del composición del composición del composición del composició		eukemi	744; 18;	TCACAP CACAP
240.8 10.6 469 14 US-10-198-846-408 225 10.4 635 14 US-10-198-846-7449 146.8 6.5 479 14 US-10-198-846-1927 132 5.8 5.0 14 US-10-198-846-1927 127.6 5.6 4573 10 US-09-86-10-6489 127.6 5.6 4573 10 US-09-86-10-70-144 127.6 5.6 473 12 US-09-814-35-17515 99.2 4.4 480 12 US-09-814-35-17515 96.4 4.3 582 10 US-09-814-35-17515 96.4 4.3 582 10 US-09-814-35-17515 96.4 4.3 582 10 US-09-91-95-62-83 75.4 3.3 2177 10 US-09-96-622-83 75.4 3.3 2177 10 US-09-96-522-83 75.4 3.3 2177 10 US-09-96-876-225 87.2 3.3 2177 10 US-09-96-876-225 88.4 3.4 10 US-09-96-880-95-1856 60.2 2.7 669 9 US-09-96-876-225 75.4 3.3 2177 10 US-09-96-876-225 75.4 3.3 2177 10 US-09-96-876-225 80.2 2.7 669 9 US-09-96-8776-228 71-581-170 10 US-09-98-9776-178-64 59.8 2.6 285 11 US-09-98-975-18856 59.8 2.6 285 11 US-09-98-975-18856 59.8 2.6 285 11 US-09-98-977-178-64 ALIGNMENTS ALIGNMENTS 1. Insleady Peter ICANT: Insleady Peter	Se Se	X X X X X X X X X X X X X X X X X X X		One P		CICIG
240.8 10.6 469 14 US-10-198-846-7649 146.8 65 479 14 US-10-198-846-7649 146.8 65 479 14 US-10-198-846-7649 127 65 6 4573 10 US-10-198-846-11215 128.4 5.7 751 10 US-10-198-846-5880 128.4 5.7 751 10 US-10-198-846-5880 128.4 5.7 751 10 US-10-198-846-5880 128.5 6 4573 12 US-10-240-965-193 118.2 5.2 472 14 US-10-198-846-235 99.2 4.4 481 12 US-10-198-846-255 99.2 4.4 481 11 US-19-96-682-856 99.2 4.3 582 14 US-10-198-846-255 77 3.4 527 14 US-10-198-846-255 75.4 3.3 2177 10 US-09-965-529-53 75.4 3.3 2177 11 US-10-945-15856 60.2 2.7 669 9 US-09-965-529-53 75.4 3.3 2177 11 US-09-965-51856 60.2 2.7 669 9 US-09-965-5186 60.2 2.7 669 9 US-09-965-51856 60.2 2.7 669 9 US-09-965				logen		acccr gcccr
146.8 10.6 469 14 US-10-198-846- 146.8 6.5 479 14 US-10-198-846- 139 6.1 1598 14 US-10-198-846- 139 6.1 1598 14 US-10-198-846- 128.4 5.7 751 14 US-10-198-846- 127.6 5.6 4573 12 US-10-198-846- 128.4 5.7 751 14 US-10-198-846- 128.4 5.7 84 81 12 US-09-814-333- 95.2 4.4 481 12 US-09-918-955- 128.4 5.7 3.4 522 14 US-10-09-918-956- 126.4 3.3 818 11 US-09-918-956- 126.4 3.3 2117 10 US-09-96-926-936-96-936-96-936-96-96-96-96-96-96-96-96-96-96-96-96-96	408 7649 1957	7172.7 51172.7 7888.14 788.14 788.16 788.16 788.36 885.36 75 75	525 533 538 538 54 5179 64 64 64	c Mye	\vdash	CCTTT
146.8 10.6 469 14 US-10-198 146.8 6.5 14 US-10-198 146.8 6.5 14 US-10-198 139 6.1 1598 14 US-10-198 132 5.8 550 14 US-10-198 132 5.8 550 14 US-10-198 137 6.8 550 14 US-10-198 127.6 5.6 4573 12 US-09-880 128.4 5.7 751 14 US-10-198 99.2 4.4 480 12 US-09-880 99.2 4.4 481 12 US-09-981 90.4 4.3 582 10 US-09-989 97.7 3.4 527 14 US-10-198 87.3 3.8 182 14 US-10-198 87.4 3.3 2117 10 US-09-989 77 3.4 527 14 US-10-097 75.4 3.3 2117 10 US-09-989 67.4 3.3 2117 10 US-09-989 67.4 3.3 2117 10 US-09-989 67.4 3.3 2117 11 US-09-989 67.4 3.3 2117 11 US-09-989 67.4 3.3 2117 15 US-09-989 67.5 3.8 2.6 285 11 US-09-988 67.8 2.6 285 11 US-09-988 68.8 2.6 285 11 US-09-988 69.8 2.6 285 11 US-09-988 60.2 6.0 0 US-09-98 60.2 6.0 0 US-09-98 60.3 60.2 6.0 0 US-09-98 60.3 60.3 60.3 60.3 60.3 60.3 60.3 60.3	-846- -846-	0.00	- 806 - 6808 - 340 - 161 - 161 - 161 - 178 - 6808 - 178 - 6808	NTS 1	·- @	CCTGA CCTGA
146.8 10.6 469 14 US-1 146.8 6.5 479 14 US-1 132 5.8 159 14 US-1 132 6.1 1598 14 US-1 128.4 5.7 751 14 US-1 127.6 5.6 4573 10 US-0 127.6 5.6 4573 10 US-0 12.6 5.6 4573 10 US-0 95.2 4.4 481 12 US-0 96.4 4.3 582 14 US-1 96.4 4.3 582 14 US-1 96.4 4.3 582 14 US-1 88.4 3.9 1848 11 US-0 96.4 4.3 582 14 US-1 88.4 3.9 1848 11 US-0 96.4 4.3 3.3 2117 11 US-0 67.4 3.3 217 14 US-0 67.4 3.3 2117 11 US-0 67.4 4.3 21 US-0 67.4 4.3 21 US-0 67.4 4.3 21 US-0 67.4 4.3 21 US-0	0-198 0-198 0-198	00000000000000000000000000000000000000	00-1000 00-1000 00-1000 00-0000 00-0100 00-01000 00-01000	IGNA in in 71,5	e 222 No.	TTGAT TTGAT
146.8 10.6 469 14 146.8 6.5 479 14 139 6.5 479 14 139 6.5 479 14 128.4 5.7 751 14 127.6 5.6 4573 12 128.4 5.7 751 14 127.6 5.6 4573 12 128.4 4.8 12 128.4 5.7 751 14 12.6 5.6 4573 12 13.6 5.6 4573 12 13.8 7.2 14 99.2 4.4 481 12 96.4 4.3 582 14 87.2 3.8 1848 14 87.2 3.8 1852 14 77 3.4 527 14 75.4 3.3 2117 11 67.4 3.3 2117 11 67.4 3.3 2117 11 67.4 3.3 2117 11 67.4 3.3 2117 11 67.4 3.0 2.7 669 9 60.2 2.7 669 9 60.3 2.7 67 67 8 60.3 2.7 67 60 9 60.3 2.7 67 60 9 60.3 2.7 67 60 9 60.3 2.7 67 60 9 60.3 2.7 60 9 60.3 2.7 60 9 60.3 2.7 60 9 60.3 2.7 60 9 60.3 2.7 60 9 60.3 2.7 60 9 60.3 2.7 60 9 60.3 2.7 60 9 60.3 2.7 60 9 60.3 2.7 60 9 60.3 2.7 60 9 60	US-1 US-1 US-1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1.20 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0	AL 17158 Genes 98,91	Sc. Pr. 0,	TAATC TAATC
1240.8 10.6 469 235 10.4 6355 145.8 6.5 1479 146.8 6.5 1479 139 6.1 1598 128.4 5.7 751 128.4 5.7 751 128.4 5.7 751 128.4 5.7 751 128.4 5.7 751 128.4 5.7 751 128.4 5.7 751 128.4 5.7 751 128.4 5.7 751 99.2 4.4 481 99.2 4.4 481 99.2 4.4 481 96.4 4.3 3.8 212 77 3.4 527 75.4 3.3 2117 75.4 3.3 2117 75.4 3.3 2117 75.4 3.3 2117 75.4 3.3 2117 62.2 2.7 669 60.2 2.6 285 59.8 2.6 285 59.8 2.6 285 59.8 2.6 285 59.8 2.6 285 59.8 2.6 285 59.8 2.6 285 59.8 2.6 285 59.8 2.6 285 60.2 2.7 1689 60.2 2.7 1689 61.2 2.7 669 62.2	ਜੇਜੋਜੇ	요리 하는 이 이 이 이 이 의 이 이 이 이 이 이 이 이 이 이 이 이 이	HAAHAOOHHOAH	126A1 126A1		ATCTG
146.8 10.6 235 10.6 235 10.6 235 10.6 139 6.1 139 6.1 128.4 5.7 128.4 5.7 128.4 5.7 128.4 5.7 128.4 5.7 128.4 5.7 128.4 5.7 128.4 5.7 128.4 5.7 128.4 5.7 128.4 5.7 128.4 5.7 128.4 5.7 128.4 4.3 96.4 4.3 96.4 4.3 96.4 4.3 96.4 4.3 96.4 4.3 96.5 6.7 77 3.4 77 3.4 77 3.4 77 3.4 77 3.4 75.4 3.3 75.4 4.3 75.4 3.3 75.4 4.3 75.4 3.3 75.4 4.3 75.4 3.3 75.4 4.3	469 635 479	15.000 4 4 4 5 5 5 0 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	2117 2117 2117 2317 2317 669 1168 60 285 285	ion [98 99 7ative	AAGTTZ
146.8 166.8	6.4.2	1-1	**********	olicat olicat	rity onser	SGAGGA SGAGGA
240.8 145.8 145.8 146.8 157.6 158.4 158.4 158.4 158.4 158.4 168.4				170 , App No. Jo RMATI MADON MADON NOE: ING CATI G DATE G DATE HOMO INE INE O O INE O O		ATGGC ATGGC
11 THE PROPERTY OF THE PROPERT	240.8 235 146.8	1399 1300 1300 1300 1300 1300 1300 1300	7777 74444477 74444477 74444477 74444477 74444477 74444477	-581- 1700 Lion Lion Linko Lin	tch al 225	
10010000000000000000000000000000000000				SULT 1 10-171- Sequence Publicate Publicate APPLICA AP	Query Ma Best Loc Matches	
0 1 0 1 0 1 0 1 2					Qué Mat	Q7 Db

us-09-642-034-4.rnpb

```
1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGAICIIGICIGAIICAIACAAGIGAAAAGAAGCIGAAAICCCICCAAAGACCCIAIICA 1079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTACAAATAGCCTGGGTTGGTGGTTTTATAGCCATTTCCATCATCAGTTTCCTGTTTCTTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTACAAATAGCCTGGGTTGGTGTTTTATAGCCATTTCCATCATCAGTTTCCTGTCTCTG 1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTCATGCAAGTCACCACCATAGTCATAGCCATGAAGAACCAGCAATGGAAATGAAAAGA 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGACCACITITICAGICAICIGICTICICAAAACAIAGAAGAAAGIGCCIAITITGAITCC 1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                           540
                                                                                                                      629
                                                                                                                                                600
                                                                                                                                                                                                     99
                                                                                                                                                                                                                               779
                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                       899
                                                                                                         CTGGGGGGTTATCTTAGTGCCTCTCATGAATCGGGTGTTTTTTCAAATTTCTCCTGAGTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -- ACCATAATCATGCTGCTTCTGGTAAAAT
                                        AAGCGAAAAGCTCTTTGCCCAGACCATGACTCAGATAGTTCAGGTAAAGATCCTAGAAAC
                                                                540 AAGCGAAAAGCTCTTTGCCCAGACCATGACTCAGATAGTTCAGGTAAAGATCCTAGAAAC
                                                                                           AGCCAGGGGAAAGGAGCTCACCGACCAGAACATGCCAGTGGTAGAAGGAATGTCAAGGAC
                                                                                                                                                  AGTGTTAGTGCTAGTGAAGTGACCTCAACTGTGTACAACACTGTCTCTGAAGGAACTCAC
                                                                                                                                                              TITCIAGAGACAATAGAGACTCCAAGACCTGGAAAACTCTTCCCCAAAGATGTAAGCAGC
                                                                                                                                                                                                                                                                                                            AATGAATCTGTGAGTGAGCCCCGAAAAGGCTTTATGTATTCCAGAAACACAAATGAAAAT
                                                                                                                                                                                                                                                                                                                                                                   CCTCAGGAGTGTTTCAATGCATCAAAGCTACTGACATCTCATGGCATGGGCATCCAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                        CCGCTGAATGCAACAGAGTTCAACTATCTCTGTCCAGCCATCATCAACCAAATTGATGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGATCTTGTCTGATTCATACAAGTGAAAGGAAGGCTGAAATCCCTCCAAAGACCTATTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGGGGGTTATCTTAGTGCCTCTCATGAATCGGGTGTTTTTCAAATTTCTCCTGAGTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITGTGGCCACTGGCCGTTGGGACTTTGAGTGGTGATGCTTTTTTTACACCTTCTTCCACAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACGIGGAAGGGTCTAACAGCTCTAGGAGGCCTGTATTTCATGTTTCTTGTTGTACATGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GATGATGATGTGGAGATTAAGAAGCAGTTGTCCAAGTATGAATCTCAACTTTCAACAAAT
GAGCATCACTCTG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1441
                                                                                           481
                                                                                                                      009
                                                                                                                                                541
                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                 096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1261
            86
                                        421
                                                                                                                                                                          099
                                                                                                                                                                                                     601
                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 961
                                                                                                                                                                      셤
                                                                                                                                                                                                                                                         Qγ
                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                 QΣ
                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                     δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               \nabla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \nabla \Delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ΩŸ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ŏ
                               δ
                                                          셤
                                                                                        δ
                                                                                                                   Q
                                                                                                                                             δ
                                                                                                                                                                                                    δŽ
                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                       APPLICANT: Meyers, Rachel E.
APPLICANT: Meyers, Rachel E.
APPLICANT: Bast Jr., Robert C.
APPLICANT: Bust Jr., Robert C.
APPLICANT: Meric, Funda
APPLICANT: Meric, Funda
APPLICANT: Mils, Gordon B.
TITLE OF INVENTION: COMPOSITIONS, KITS, AND METHODS FOR IDENTIFICATION, ASSESSMENT, TITLE OF INVENTION: PREVENTION, AND THERAPY OF BREAST CANCER
FILE REFERENCE: MII-038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACCACGAGCATCACTCAGACCATGAGCGTCACTCAGACCATGAGCATCACTCAGACCAC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGCATCACTCTGACCATGATCATCACTCTCACCATAATCATGCTGCTTCTGGTAAAAT 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTICATGAACTAAAAGCAGCTGCTTTCCCCCAGACCACTGAGAAAATTAGTCCGAATTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAATCTGGCATTAATGTTGACTTGGCAATTTCCACACGGCAATATCATCATCAACAGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCTACCGCTATGGAGAAATAATTCTTTGTCAGTTGAAGGGTTCAGAAATTACTTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AATATAGGCATAGATAAGATTAAAAGAATCCATATACACCATGACCACGACCATCACTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGCGAGGAAGTTATCTGTAATCTTGATCCTGACCTTTGCCCCTCTCTGTCACAATCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 2744;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 2222; Di
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/10/177,293
CURRENT FILING DATE: 2002-06-21
PRIOR APPLICATION NUMBER: US 60/299,887
PRIOR FILING DATE: 2001-06-21
PRIOR FILING DATE: 2001-06-27
PRIOR FILING DATE: 2001-06-27
PRIOR APPLICATION NUMBER: US 60/306,501
PRIOR APPLICATION NUMBER: US 60/325,002
PRIOR FILING DATE: 2001-07-18
PRIOR FILING DATE: 2001-09-25
PRIOR PLILING DATE: 2002-03-05
PRIOR APPLICATION NUMBER: US 60/325,505
PRIOR PILING DATE: 2002-03-05
PRIOR PILING DATE: 2002-03-05
PRIOR PILING DATE: 2002-03-05
PRIOR FILING DATE: 2002-03-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQ ID NOS: 506
SOFTWARE: PastSEQ for Windows Version 4.0
SEQ ID NO 263
IENGTH: 2744
                                                   Gannavarpu, Manjula
                                                                Kamatkar, Shubhangi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                98.0%;
ilarity 99.2%;
Conservative C
                                                                                                    Wang, Youzhen
Xu, Yongyao
Hoersch, Sebastian
                                                                             Maureen
                                                                                                                                                Monahan, John
            Lillie, James
Glatt, Karen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; ORGANISM: Homo sapiens
US-10-177-293-263
                                                                                           Myer, Vic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 2250; Conserv
                                                                              Mertens,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA
                                                                                                                                  APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
```

```
180
                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                        317
                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                      GACCACGAGCATCACTCAGACCATGAGCGTCACTCAGACCATGAGCATCACTCAGACCAC 360
                                                                                                                                                                                                                                                                                                                                                                                                                           497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                           09
                                                                                                                                                                                      GAATCTGGCATTAATGTTGACTTGGCAATTTCCACACGGCAATATCATCTACAACAGCTT
                                                                                                                                                                                                                      CTTCATGAACTAAAAGCAGCTGCTTTCCCCCCAGACCACTGAGAAAATTAGTCCGAATTGG
                                                                                                                                                                                                                                   258 GAATCTGGCATTAATGTTGACTTGGCAATTTCCACGCCAATATCATCTACAACAGCTT
                                                                                                                                                                                                                                                                                                              TICTACCGCTATGGAGAAAATAATTCTTTGTCAGTTGAAGGGTTCAGAAAATTACTTCAA
                                                                                                                                                                                                                                                                                                                                                          AATATAGGCATAGATAAAGATTAAAAGAATCCATATACACCATGACCACGACCATCACTCA
                                                                                                                                                                                                                                                                                                                                                                                                                   GAGCATCACTCTGACCATGATCATCACTCTCACCATAATCATGCTGCTTCTGGTAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGCGAAAAGCTCTTTGCCCAGACCATGACTCAGATAGTTCAGGTAAAGATCCTAGAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540 AAGCGAAAAGCTCTTTGCCCAGACCATGACTCAGATAGTTCAGGTAAAGATCCTAGAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541 AGTGTTAGTGCTAGTGAAGTGACCTCAACTGTGTACAACACTGTCTCTGAAGGAACTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITCIAGAGACAATAGAGACTCCAAGACCTGGAAAACTCTTCCCCAAAGATGTAAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AATGAATCTGTGAGTGAGCCCCCGAAAAGGCTTTATGTATTCCAGAAACACAAATGAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGCTGAATGCAACAGAGTTCAACTATCTCTGTCCAGCATCATCAACTAGATTGATGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGCCAGGGGAAAGGAGCTCACCGACCAGAACATGCCAGTGGTAGAAGGAATGTCAAGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AATGAATCTGTGAGTGAGCCCCCGAAAAGGCTTTATGTATTCCAGAAACACAAATGAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCTCAGGAGTGTTTCAATGCATCAAAGCTACTGACATCTCATGGCATGGCATCCAGGTT
                                                                                                                                                                          1 ATGGCGAGGAAGTTATCTGTAATCTTGATCCTGACCTTTGCCCTCTCTGTCACAAATCCC
                                                                                                                                                     Gaps
                                                                                                                            Length 3537;
                                                                                                                                                    18;
                                                                                                                                                    Indels
                                                                                                                              DB 14;
                                                                                                                                                    1;
                                                                     ; NAME/KEY: misc_feature
; LOCATION: 1, 2, 3533, 3534, 3535, 3536, 3537
; OTHER INFORMATION: n = A,T,C or G
US-10-198-846-10007
                                                                                                                              Score 2220.4;
Pred. No. 0;
                                                                                                                                                   0; Mismatches
   4.0
  SOFTWARE: FastSEQ for Windows Version SEQ ID NO 10007
                                                                                                                              97.9%;
99.2%;
                                                                                                                            Query Match
Best Local Similarity 99.2
Matches 2249; Conservative
                                              ORGANISM: Homo sapiens
                                                                                                                                                                                               138
                                                                                                                                                                                                                                           198
                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                               378
                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                    TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                       LENGIH:
                                                           FEATURE
                                                                                                                                                                                              쉽
                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                               δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                 임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÿ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D
                                                                                                                                                                          \delta
                                                                                                                                                                                                                     QΥ
                                                                                                                                                                                                                                                             ΩŽ
                                                                                                                                                                                                                                                                                                           ρý
                                                                                                                                                                                                                                                                                                                                                          QΣ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΛ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       őλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \Omega Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0\overline{y}
                                                                                                                                                              1740
                                                                                                                                                                                                         1800
                                                                                                                                                                                                                                                                                                                                                                                          2040
                                                                                                                                                                                                                                                                                                                                                                                                              2159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2279
                                                                     1620
                                                                                                                  1680
                                                                                                                                       1799
                                                                                                                                                                                   1859
                                                                                                                                                                                                                                1919
                                                                                                                                                                                                                                                      1860
                                                                                                                                                                                                                                                                           1979
                                                                                                                                                                                                                                                                                                  1920
                                                                                                                                                                                                                                                                                                                       2039
                                                                                                                                                                                                                                                                                                                                              1980
                                                                                                                                                                                                                                                                                                                                                                   2099
                                                                                                                                                                                                                                                                                                                                                                                                                                     2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                           2219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2339
 GAGGAGAAAGTAGATACAGATGATCGAACTGAAGGCTATTTACGAGCAGACTCACAAGAG 1619
                                               1679
                                  CGCTACTCTCGGGAGGAGCTGAAAGATGCCGGCGTCGCCACTTTGGCCTGGATGGTGATA
                                                                                                                                                                                                                     CCCTCCCACTITGAITCTCAGCAGCCTGCAGICTTGGAAGAAGAAGAAGACTCATGAIAGCT
                                                                   CATGCTCATCCACAGGAAGTCTACAATGAATATGTACCCAGAGGGTGCAAGAATAAATGC
                                                                                                               CATICACATITCCACGATACACTCGGCCAGTCAGACGATCTCATTCACCACCATCATGAC
                                                                                                                                                             ATGGGTGATGGCCTGCAATTTCAGCGATGGCCTAGCAATTGGTGCTGCTTTTACTGAA
                                                                                                                                                                                                                                                                                                GGCTTATCAAGTGGTTTAAGTACTTCTGTTGCTGTTCTGTCATGAGTTGCCTCATGAA
                                                                                                                                                                                                                                                                                                                                             TTAGGTGACTTTGCTGTTCTACTAAAGGCTGGCATGACCGTTAAGCAGGCTGTCCTTTAT
                                                                                                                                                                                                                                                                                                                                                                                         AATGCATTGTCAGCCATGCTGGCGTATCTTGGAATGGCAACAGGAATTTTCATTGGTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                    TAIGCIGAAAAIGITICIAIGIGGATAITIGCACTTACIGCIGGCTTATTCAIGIAIGTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCTCTGGTTGATATGGTACCTGAAATGCTGCAAATGATGCTAGTGACCATGGATGTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2220 GCTCTGGTTGATATGGTACCTGAAATGCTGCACAATGATGCTAGTGACCATGGATGTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2161 CGCTGGGGGTATTTCTTTTACAGAATGCTGGGATGCTTTTGGGTTTTTGGAATTATGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AND METHODS PREVENTION, AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITATITICCATATITICAACATAAAATCGIGTTTCGIATAAATITICTAG 2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Lillie, James
APPLICANT: Lillie, James
APPLICANT: Xu, Yongyao
APPLICANT: Xu, Yongyao
APPLICANT: Steinman, Katheen
JITLE OF INVENTION: NOVEL GENES, COMPOSITIONS, KITS, AND
TITLE OF INVENTION: PIERAPY OF BREAST CANCER
TITLE OF INVENTION: THERAPY OF BREAST CANCER
FILE REPERENCE: MR-049
CURRENT APPLICATION NUMBER: US/10/198,846
CURRENT FILING DATE: 2002-07-18
PRIOR PILING DATE: 2001-07-18
PRIOR PLING DATE: 2001-07-18
NUMBER OF SEQ ID NOS: 14084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 10007, Application US/10198846
Publication No. US20030099974A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-198-846-10007
1560
                                             1620
                                                                  1561
                                                                                         1680
                                                                                                               1621
                                                                                                                                     1740
                                                                                                                                                           1681
                                                                                                                                                                                 1800
                                                                                                                                                                                                         1741
                                                                                                                                                                                                                                                                         1920
                                                                                                                                                                                                                                                                                                                                                                                        1981
                                                                                                                                                                                                                                                                                                                                                                                                             2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                         2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2340
                                                                                                                                                                                                                                                    1801
                                                                                                                                                                                                                                                                                                                                             1921
                                                                                                                                                                                                                                                                                                                                                                                                                                    2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2221
                      1501
                                                                                                                                                                                                                                                                                                1861
                                                                                                                                                                                                                                                                                                                                                                   2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2101
셤
                      20
40
                                                           ŏ
                                                                                   ద
                                                                                                            QΛ
                                                                                                                              g
                                                                                                                                                    ØΫ
                                                                                                                                                                           g
                                                                                                                                                                                                      δŽ
                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                 0.7
Db
                                                                                                                                                                                                                                                                                          δŽ
                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                            QΣ
                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                ÓΫ
                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                           QV
Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q\bar{Y}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     qq
```

QY

1501 CCCTCCCACTTTGATCTCACCACCACCACCACCACACACA	RESULF 5 US-09-925-300-591 Sequence 510, Application US/09925300 Patent No. US20020151681A1 GENERAL INFORMATION: APPLICANT: Craig Rosen, APPLICANT: Steve Ruben TITLE OF INVERTION NUMBER: US/09/925,300 CURRENT PAPLICATION NUMBER: US/09/925,300 CURRENT FILING DATE: 2000-08-10 PRIOR PLING DATE: 2000-03-08 PRIOR PLING DATE: 1090-03-08 PRIOR FILING DATE: 1090-03-08 PRIOR FILING DATE: 1990-03-12 NUMBER OF SEQ ID NOS: 1890 SOFFWARE PLEATION NUMBER: 06/124,270 PRIOR PLICATION NUMBER: 06/124,270 PRIOR PLICATION NUMBER: 06/124,270 PRIOR PLICATION NUMBER: 1990-03-12 NUMBER OF SEQ ID NOS: 1890 SOFFWARE: PatentIN Ver. 2.0 SEQ ID NO 591 ILENGTH: 1193 TYPE: DNA
421 AAGGGAAAAGCICTITGCCCGAACCATGACTACGAAAGTTCAGGTAAGATCCTAGAAAC	GGACCACTTTCAGTCATCTGTCTTCTCAAAACATAGAAGAAAGTGCCTATTTGATTCC 1 1 1 1 1 1 1 1 1

ŏ

δ

δ 셤 ã g QΩ

QΣ

δŽ

δ

QY

```
1086
                                 CTCATGCTCATCCACAGGAAGTCTACAATGAATATGTACCCAGAGGGTGCAAGAATAAAT 1618
                                                                                                  GCCATTCACATTCCACGATACACTCGGCCAGTCAGACGATCTCATTCACCACCATCATG 1678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        967 ATAGCCTGGGTTGGTGGTTTTATAGCCATTTCCATCATCAGTTTCCTGTCTCTGCTGGGG 1026
AGCCCTCCCACTTTGATTCTCAGCAGCCTGCAGTCTTGGAAGAAGAAGAGGGCCATGATAG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1147 GCAAGTCACCACCATAGTCATAGCCATGAAGAACCAGCAATGGAAATGAAAAGAGGACCA 1206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITITICAGICATCIGICITCICAAAACAFAGAAGAAAGIGCCTAITITGAITCCACGIGG 1266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1267 AAGGGTCTAACAGCTCTAGGAGGCCTGTATTTCATGTTTCTTGTTGAACATGTCCTCACA 1326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1327 TIGAICAAACAAITITAAAGAIAAGAAGAAAAAGAAICAGAAGAAACCIGAAAAIGAIGAI 1386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GITATCTTAGTGCCTCTCATGAATCGGGTGTTTTTCAAATTTCTCCTGAGTTTCCTTGTG 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTCATGCTCATCCACAGGAAGTCTACAATGAATATGTACCCACAGGGGTGCAAGAWTAAAT
                                                                                                                   ACAGCCTGGGTTGGTGGTTTTATATAGCCATTTCCATCATCAGTTTCCTGTTGCTGGTGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GITATCITAGIGCCICTCATGAATCGGGTGITTITCAAATTTCTCCTGAGTTTCCTTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCACTGGCCGTTGGGACTTTGAGTGGTGATGCTTTTTACACCTTCTTCCACATTCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Lillie, James
APPLICANT: Xu, Yongyao
APPLICANT: Wang, Youzhen
APPLICANT: Wang, Youzhen
APPLICANT: Steinmann, Kathleen
TITLE OF INVENTION: NOVEL GENES, COMPOSITIONS, KITS, AND METHODS
TITLE OF INVENTION: POR IDENTIFICATION, ASSESSMENT, PREVENTION, AND
TITLE OF INVENTION: THERAPY OF BREAST CANCER
FILE REFERENCE: MRI-049
CURRENT APPLICATION NUMBER: US/10/198,846
CURRENT APPLICATION NUMBER: 60/306,220
PRIOR APPLICATION NUMBER: 60/306,220
PRIOR FILING DATE: 2001-07-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 14; Length 1449;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       39.7%; Score 900.4; DB ilarity 96.4%; Pred. No. 8e-248; Conservative 0; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS: 14084
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                   Sequence 10321, Application US/10198846
Publication No. US20030099974A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ) NAME/KEY: misc_feature

) LOCATION: 1447, 1448, 1449

US-10-198-846-10321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 985; Conserv
                                                                                                                                                                   ACT 1681
                                                                                                                                                                                                  ACT 1143
                                                                                                                                                                                                                                                    RESULT 6
US-10-198-846-10321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 10321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 1449
                                                                                                  1619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1207
 961
                                 1559
                                                                1021
                                                                                                                                                                   1679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             439
                                 Q\overline{Q}
                                                             Db
                                                                                              δŽ
                                                                                                                                qq
                                                                                                                                                                   ŏ
                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CATTACAAATAGCCTGGGTTGGTGGTTTTATAGCCATTTCCATCATCAGTTTCCTGTCTC 1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1019 IGCIGGGGGTTAICTTAGIGCCICTCAIGAATCGGGTGTTTTTTCAAATTTCTCCTGAGTT 1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1139 ATTCTCATGCAAGTCACCACCATAGTCATAGCCATGAAGAACCAGCAATGGAAATGAAAA 1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAGGACCACTTTTCAGTCATCTGTCTTCTCAAAACATAGAAGAAGGAGCCTATTTTGATT 1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCACGTGGAAGGGTCTAACAGCTCTAGGAGGCCTGTATTTCATGTTTCTTGTTGAACATG 1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1379 AIGAIGAIGIGIGGAGAITAAGAAGCAGITGICCAAGTATGAATCTCAACTTTCAACAA 1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AIGAGGAGAAAGIAGAIACAGAIGAICGAACIGAAGGCIAITIACGAGCAGACICACAAG 1498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCCCTCCCACTTTGATTCTCAGCAGCCTGCAGTCTTGGAAGAAGAAGAAGAGGTCATGATAG 1558
                                                                                  ö
                                                                                                                                                                                   658
                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                    718
                                                                                                                                                                                                                                                                                                                   778
                                                                                                                                                                                                                                                                                                                                                                                      838
                                                                                                                                                                                                                                                                                                                                                                                                     868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721 CCACGIGGAAGGGICIAACAGCICTAGGAGGCCIGIATTICAIGTTICTIGIIGAACAIG 780
                                                                                                                                                                                                                                                                     CTAGATCTTGTCTGATTCATACAAGTGAAAAGAGGCTGAAATCCCTCCAAAGACCTATT 958
                                                                                                                                                 9
                                                                                                                                                                                                         ACTITCIAGAGACAATAGAGACTCCAAGACCTGGAAAACTCTTCCCCAAAGATGTAAGCA
                                                                                                                                                                                                                                                                                                                                    661 GAGGACCACTITICAGICATCIGICTICICAAAACAIAGAAGAAAGAAGAAGAAGTIGATITIGAIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 ACAGTGTAGTGCTAGTGAAGTGACCTCAACTGTGTACAACACTGTCTCTGAAGGAACTC
                                                                                                                                                                                                                                                  CAAATGAATCTGTGAGTGAGCCCCGGAAAAGGCTTTATGTATTCCAGAAACACAAATGAAA
                                                                                                                                                                                                                                                                                                                                                                                  ATCCTCAGGAGTGTTTCAATGCATCAAAGCTACTGACATCTCATGGCATGGGCATCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTCCGCTGAATGCAACAGAGTTCAACTATCTCTGTCCAGCCATCAACCAAATTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .079 rccrrgregcacreregecerregeacreregegegergarecrerreace
                                                                                                                                                                                 599 ACTITCIAGAGACAATAGAGACTCCAAGACCTGGAAAACTCTTCCCCAAAGATGTAAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481 TGCTGGGGGTTATCTTAGTGCCTCTCATGAATCGGGTGTTTTTTGAAATTTCTCCTGARTT
                                                                                                                539 ACAGTGTTAGTGCTAGTGAAGTGACCTCAACTGTGTACAACACTGTCTCTGAAGGAACTC
                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 10; Length 1193;
                                                                                  0;
                                                                                  Indels
                                                                                  ;
0
                                               Score 1141.4;
Pred. No. 0;
4; Mismatches
                                                 50.3%;
                                           Query Match
Best Local Similarity 99.7'
Matches 1139; Conservative
ORGANISM: HOMO
; ORGANISM: HOM
US-09-925-300-591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1199 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1259 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1499
                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                629
                                                                                                                                                                                                                                                                                                                   719
                                                                                                                                                                                                                                                                                                                                                                                                                                                     839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                g
                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ద
```

us-09-642-034-4.rnpb

1013,

1012, 1022, 1032

ထ

```
GCCATTTCCATCATCAGTTTCCTGTCTCTGGGGGGTATCTTAGTGCCTCTCATGAAT 1050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              751 ITTATGTATTCCAGAAACACAAATGAAAATCCTCAGGAGTGTTTCAATGCATCAAAGCTA 810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGGCTGAAATCCCTCCAAAGACCTATTCATTACAAATAGCCTGGGTTGGTGGTTTTATA 990
                                                                                                                                                                                                                                                                                            CTGACATCTCATGGCATGGGCATCCAGGTTCCGCTGAATGCAACAGAGTTCAACTATCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GIIGAAGGGIICAGAAAAITACIICAAAAIAIAGGCAIAGAIAAGAITAAAAAGAAICCAI
                                                                                                                                              ATACACCATGACCACGACCATCACTCAGACCACGAGCATCAC-TCAGACCATGAGC-GTC
                                                                                                                                                                                                                                ACTCAGACCATGAGCAATCACTCAGACCACGAGCATCACTCTGACCATGATCATCACTCT
                                                                                                                                                                                                                                                                                CACCATAATCATGCTGCTTCTGGTAAAAATAAGCGAAAAAGCTCTTTGCCCCAGACCATGAC
                                                                                                                                                                                                                                                                                                                                TCAGATAGTTCAGGTAAAGATCCTAGAAACAGCCAGGGGAAAGGAGCTCACCGACCAGAA
                                                                                                                                                                                                                                                                                                                                                                                CATGCCAGTGGTAGAAGGAATGTCAAGGACAGTGTTAGTGCTAGTGAAGTGACCTCAACT
                                                                                                                                                                                                                                                                                                                                                                                                                               GTGTACAACACTGTCTCTGAAGGAACTCACTTTCTAGAGACAATAGAGACTCCAAGACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGTCCAGCCATCATCAACCAAATTGATGCTAGATCTTGTCTGATTCATACAAGTGAAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGGGTGTTTTTCAAATTTCTCCTGAGTTTCCTTGTGGCACTGGCCGTTG 1099
                                                                               Length 1032,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cesescriccacaaarccrisscariccristeacreccsisscaric
         1011,
1021,
1031,
                                                                                                       Indels
| LOCATION: 1004, 1005, 1006, 1007, 1008, 1009, 1010, LOCATION: 1014, 1015, 1016, 1017, 1018, 1019, 1020, LOCATION: 1024, 1025, 1026, 1027, 1028, 1029, 1030, US-10-198-846-13805
                                                                                DB 14;
                                                                                                         83;
                                                                               Score 694.2; DB 14
Pred. No. 1.3e-188;
                                                                                                       0; Mismatches
                                                                               30.6%;
90.0%;
                                                                                                       800; Conservative
                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 8
US-10-198-846-8490
                                                                                                                                                                                274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1051
                                                                                                                               214
                                                                                                                                                                                                        63
                                                                                                                                                                                                                                332
                                                                                                                                                                                                                                                      123
                                                                                                                                                                                                                                                                                                        183
                                                                                                                                                                                                                                                                                                                                451
                                                                                                                                                                                                                                                                                                                                                                               511
                                                                                                                                                                                                                                                                                                                                                                                                      303
                                                                                                                                                                                                                                                                                                                                                                                                                               571
                                                                                                                                                                                                                                                                                                                                                                                                                                                       363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            871
                                                                                                                                                                                                                                                                               391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              631
                                                                                Query Match
                                                                                             Local
                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                                              QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ^{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q\bar{Y}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q_{\overline{A}}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \delta
                                                                                                                                                    g
                                                                                                                                                                               QΥ
                                                                                                                                                                                                 g
                                                                                                                                                                                                                          δŽ
                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                              QΫ́
                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                  QQ
                                                                                                                                                                                                                                                                                                                                                                            QΣ
                                                                                                                                δŽ
                                                                                                                                                                                                                                                                                                                                                                                            1862
                                                                                                                                                                                                                                           1686
                                             1446
                                                                                                                                          1566
                                                                                                                                                                                            1626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAAGTAGATACAGATGGATCGAACTGAAGGCTATTTACGAGCAGACTCACAAGAGCCCTCC 1506
                                                                                                                                                                                                                                                                                         CTCTCGGGAGGAGCTGAAAGATGCCGGCGTCGCCACTTTGGCCTGGATGGTGATAATGGG 1805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGGTGACTTTGCTGTTCTACTAAAGGCTGGCATGACCGTTAAGCAGGCTGTCCTTTATAA 1982
                                                                                                                                                                                                                   858
                                                                                                                   738
                                                                                                                                                                                                        TGATGGCCTGCACAA-TTTCAGCGATGGCCTAGCAATTGG-TGCTGTTTTACTGAA-GG
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CACTITGATTCTCAGCAGCCTGCAGTCTTGGAAGAAGAAGAGGTCATGATAGCTCATGCT
                                                                                                                                                      CATCCACAGGAAGTCTACAATGAATATGTACCCAGAGGGTGCAAGAATAAATGCCATTCA
                                                                                                                                                                                                                                                         1039 TGATGGCCTGCACAATTTTCAGCGATGGCCTAGCAATTGGCTGCTGCTTTTACTGAAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                          CTTATCAAGTGGTTTAAGTACTTCTGTTGCTGTTCTGTCATGAGTTGCCTCATGAATT
       GATGTGGAGATTAAGAAGCAGTTGTCCAAGTATGAATCTCAACTTTCAACAAATGAGGAG
                                                       CATITICCACGATACACTCGGCCAGTCAGACGATCTCATTCACCACCATCATGACTACCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AND METHODS
PREVENTION, AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INCRRATION:
APPLICANT: Lillie, James
APPLICANT: Lillie, James
APPLICANT: Mang, Youzhan
APPLICANT: Wang, Youzhan
APPLICANT: Wang, Youzhan
APPLICANT: Wang, Youzhan
APPLICANT: Wang, Youzhan
TITLE OF INVENTION: NOVEL GENES, COMPOSITIONS, KITS, AND
TITLE OF INVENTION: POR IDENTIFICATION, ASSESSMENT, PRE
TITLE OF INVENTION: THERAPY OF BREAST CANCER
FILE REFERENCE: MRI-049
CURRENT RILIKGATION NUMBER: US/10/198,846
CURRENT RILIKG DATE: 2001-07-18
PRIOR APPLICATION NUMBER: 60/306,220
PRIOR PRILING DATE: 2001-07-18
NUMBER OF SEQ ID NOS: 14084
SOFTWARE FASTEREQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US/10198846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 13805, Application US/Publication No. US20030099974A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE: NAME/KEY: misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ||
TG 1218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TG 1984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -10-198-846-13805
                                                                                                                                                                                                                                                                                        1687 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1158
                                                                  619
                                                                                                                                                                                                                  199
                                                                                                                                                                                                                                                                                                                  919
                                                                                                                                                                                                                                                                                                                                           1746
                                                                                                                                                                                                                                                                                                                                                                                                                                          1863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1983
                                                                                         1447
                                                                                                                                                                                                                                                                                                                                                                                           1806
                                                                                                                                          1507
                                                                                                                                                                                                                                           1627
                                         1387
                                                                                                                                                                                         1567
                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                d
                                                                                                              q
                                                                                                                                                                 g
                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                         QΣ
                                                                                                                                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                                                                                                       δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δž
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                         à
                                                                                         δ
                                                                                                                                          QΫ
                                                                                                                                                                                         δy
                                                                                                                                                                                                                                           δŽ
                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                        QΥ
```

242

273

Gaps

. 0

62

331122 390 182 450 510

302 570 362 630 422 069

482

542

870

930

722

```
US-09-918-995-30283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \Omega \underline{Y}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTAGGAGGCCTGTATTTCATGTTCTTGTTGAACATGTCCTCACATTGATCAAACAATTT 1341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1342 AAAGATAAGAAGAAAAAGAATCAGAAGAAACCTGAAAATGATGATGATGTGGAGATTAAG 1401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1402 AAGCAGTTGTCCAAGTATGAATCTCAACTTTCAACAAATGAGGAGAAAGTAGATACAGAT 1461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1522 CAGCCTGCAGTCTTGGAAGAAGAGGGTCATGATAGCTCATGCTCATCCACAGGAAGTC 1581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1042 CTCATGAATCGGGTGTTTTTCAAATTTCTCCTGAGTTTCCTTGTGGCACTGGCCGTTGGG 1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1102 ACTITGAGIGGIGALGCTITITITACACCTICTICCACALICICALGCAAGICACCACAL 1161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1162 AGTCATAGCCATGAAGAACCAGCAATGGAAATGAAAAGGAGGACCACTTTCAGTCATCTG 1221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1462 GATCGAACTGAAGGCTATTTACGAGCAGACTCACAAGAGCCCTCCCACTTTGATTCTCAG 1521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      190 TCTTCTCAAAACATAGAAGAAAGTGCCTATTTTGATTCCACGTGGAAGGGTCTAAAAGGT 249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         310 AAAGATAAGAAGAAAAAATCAGAAGAAACCTGAAAATGATGATGATGTGGAGATTAAG 369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1582 TACAATGAATATGTACCCAGAGGGTGCAAGAATAAATGCCATTCACATTTCCACGA 1637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            70 ACTTIGAGTGGTGATGCTTTTTTACACCTTCTTCCACATTCTCATGCAAGTCACCACAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1222 TCTTCTCAAAACATAGAAGAAAGTGCCTATTTTGATTCCACGTGGAAGGGTCTAACAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11 CGCATGAATCGGGTGTTTTTCAAATTTCTCCTG-NTTTCCTTGTGGCACTGGCCGTTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                       APPLICANT: Xu, Yongyao
APPLICANT: Wang, Youzhen
APPLICANT: Stelmann, Rathleen
APPLICANT: Stelmann, Rathleen
TITLE OF INVENTION: NOYEL GENES, COMPOSITIONS, KITS, AND METHODS
TITLE OF INVENTION: FOR IDENTIFICATION, ASSESSMENT, PREVENTION, AND
TITLE OF INVENTION: THERAPY OF BREAST CANCER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 14; Length 606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 578.4; DB 14
Pred. No. 1.8e-155;
0; Mismatches 5;
                                                                                                                                                                                                                               FILE REFERENCE: MRI-049
CURRENT APPLICATION NUMBER: US/10/198,846
CURRENT FILING DATE: 2002-07-18
PRIOR APPLICATION NUMBER: 60/306,220
PRIOR FILING DATE: 2001-07-18
                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS: 14084
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 8490
Sequence 8490, Application US/10198846
Publication No. US20030099974A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; NAME/KEY: misc_feature
; LCCATION: 1, 44, 516, 571, 600, 606
; OTHER INFORMATION: n = A,T,C or G
US-10-198-846-6490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 99.0 Matches 590; Conservative
                                                                      APPLICANT: Lillie, James
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Homo sapiens
                     Publication No. US20 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
```

δŽ

d δ g Qγ ద $\Delta \Omega$ g ŏ g QΥ

```
1731 TCACAGCCAGCGCTACTCTCGGGAGGAGCTGAAAGATGCCGGCGTCGCCACTTTGGCCTG 1790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1791 GATGGTGATAATGGGTGATGGCCTGCACAATTTCAGCGATGGCCTAGCAATTGGTGCTGC 1850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1851 ITTTACTGAAGGCITATCAAGTGGTTTAAGTACTTCTGTTGCTGTTGTTGTGTATATCATGAGTT 1910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1911 GCCTCATGAATTAGGTGACTTTGCTGTTCTACTAAAGGCTGGCATGACCGTTAAGCAGGC 1970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  189 TITTACTGAAGGCTTATCAAGGGGGTTAAGTACTTCTGTTGCTGTGGTCGTCACATGAGG 248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               69 TCACAGCCAGCGCTACTCTCGGGAGGAGCTGAAAGATGCCGGCGTCGCCACTTTGGCCTG 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                129 GATGGTGATAATGGGGGATGGCCTGCACAATTTCAGCGATGGCCTAACAATTGGCGCTGC 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  249 GCCTCATGAATTAGGTGACTTTGCTGGTCTACTAAAGGCTGGCATGACGTTAACGTTAAAGC 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1971 TGTCCTTTATAATGCATTGTCAGCCATGCTGGCGTATCTTGGAATGGCAACAGGAATT 2028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Lillie, James
APPLICANT: Lillie, James
APPLICANT: Xu, Yongyao
APPLICANT: Xu, Yongyao
APPLICANT: Steinmann, Kathleen
APPLICANT: Steinmann, Kathleen
TITLE OF INVENTION: NOVEL GENES, COMPOSITIONS, KITS, AND METHODS
TITLE OF INVENTION: THERAPY OF BREAST CANCER
FILE REFERENCE: MRI-049
CURRENT APPLICATION NUMBER: US/10/198,846
CURRENT APPLICATION NUMBER: G0/306,220
PRIOR APPLICATION NUMBER: 60/306,220
PRIOR PILING DATE: 2001-07-18
NUMBER OF SEQ ID NOS: 14084
SOFTWARR: FastSEQ for Windows Version 4.0
SEQ ID NO 7974
LENGTH: 905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 11; Length 366;
                                                                                                         TITLE OF INVENTION: NOVEL NUCLEIC ACID SEQUENCES OBTAINED
TITLE OF INVENTION: FROM VARIOUS CDNA LIBRARIES
FILE REFERENCE: 2041-756
CURRENT APPLICATION NUMBER: US/09/918,995
CURRENT FILING DATE: 2001-07-30
PRIOR APPLICATION NUMBER: US/09/235,076
PRIOR FILING DATE: 1999-01-20
NUMBER OF SEQ ID NOS: 38054
SEQ ID NOS: 38054
SEQ ID NO 30283
LENGTH: 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 335.6; DB 1.
Pred. No. 8.9e-86;
0; Mismatches 14
Sequence 30283, Application US/09918995
Publication No. US20030073623A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 7874, Application US/10198846 Publication No. US20030099974A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14.8%;
96.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 344; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA ORGANISM: Homo sapiens FEATURE:
                                                                                  APPLICANT: Hyseq, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-918-995-30283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 10
US-10-198-846-7874
```

셤

ద

δy Ω̈́

ŏ

QY g

δŽ

g

ä

g

ğ

a a δλ 셤 δý g Ω

 Ω

```
1088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACTGGCCGTTGGGACTTTGAGTGGTGATGCTTTTTTACACCTTCTTCCACATTCTCATGC 1148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1149 AAGTCACCACCATAGTCATAGCCATGAAGAACCAGCAATGGAAATGAAAAGAGGACCACT 1208
                                                                            1513 GATTCTCAGCAGCCTGCAGTCTTGGAAGAAGAAGAGGTCATGATAGCTCATGCTCATCCA 1572
                                                                                                                                                              CAGGAAGTCTACAATGAATATGTACCCAGAGGGTGCAAGAATAAATGCCATTCACATTTC 1632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              681 ATTAGCTGTAGGAACAATGAGTGGAGACGCCCTTCTTCATCTACTGCCCCATTCTCAGGG 740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      621 GATCTTGGTTCCTATCATTAACCAAGGATGCTTCAAATTCCTTACATTCCTTGTTGC 680
                                                                                                                                                                                     969 AGCCIGGGIIGGIGGIIIIIAAIAGCCANITICCAICACAINICCIGICTCIGCIGGGGGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1029 TATCTTAGTGCCTCTCATGAATCGGGTGTTTTTCAAATTTCTCCTGAGTTTCCTTGTGGC
                                                                                                    APPLICANT: ITALILIE, James APPLICANT: TRANSUSSON, FAREVELS APPLICANT: TALILIE, James APPLICANT: LIALILIE, James APPLICANT: LIALILIE, James APPLICANT: LIALILIE, James APPLICANT: LIALILIE, James APPLICANTON: NOVEL GENES, COMPOSITIONS, KITS, AND METHODS FOR ITALIE OF INVENTION: IDENTIFICANTON, ASSESSMENT, PREVENTION, AND TITLE OF INVENTION: THERAPY OF OVARIAN CANCER APPLICANTON NUMBER: US 60/191,031
PRIOR APPLICATION NUMBER: US 60/191,031
PRIOR APPLICATION NUMBER: US 60/207,124
PRIOR APPLICATION NUMBER: US 60/211,940
PRIOR PILING DATE: 2000-05-15
PRIOR PILING DATE: 2000-05-15
PRIOR PILING DATE: 2000-05-15
PRIOR PILING DATE: 2000-07-07
PRIOR PILING DATE: 2000-07-07
PRIOR PILING DATE: 2000-07-07
PRIOR PILING DATE: 2000-07-15
PRIOR PILING DATE: 2000-12-21
NUMBER OF SEQ ID NOS: 22037
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 319; DB 12; Length 4417; Pred. No. 3.4e-80;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                 1633 CACGATACACTCGGCCAGTCAGACGA 1658
                                                                                                                                                                                                                                                                       312 CACGATACACTCGGCCAGTCAGACGA 337
                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 22020, Application US/09814353 Publication No. US20030165831A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: misc_feature
; LCGARION: 1, 2, 3, 4415, 4416, 4417
; CTHER INFORMATION: n = A,T,C or G
US-09-814-353-22020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Thompson, Pamela
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Lee, John
                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                              US-09-814-353-22020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             736;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1089
                                                                                                                                                              1573
                                   132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          සි
                                                                                                                                                                                                    g
                                                                                                                                                                                                                                               δy
                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ά
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QΣ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                            ğ
                                                                                                                  g
                                                                                                                                                            QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1333 AAACAATTTAAAGATAAGAAGAAAAAGAATCAGAAGAAACCTGAAAATGATGATGATGTGT 1392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1393 GAGATTAAGAAGCAGTTGTCCAAGTATGAATCTCAACTTTCCAACAAATGAGGAGAAAGTA, 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1453 GATACAGATGATCGAACTGAAGGCTATTTACGAGCAGCTCACAAGAGCCCTCCCCACTTT 1512
                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                               246 AGGCATAGATAAGATTAAAAGAATCCATATACACCATGACCACGACCATCACTCAGACCA 305
                                                                                                                                                                                                                                                                     365
                                                                                                                                                                                                                                                                                                                                                        425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       426 AAAAGCTCTTTGCCCAGACCATGACTCAGATAGTTCAGGTAAAGATCCTAGAAACAGCCA 485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAAAGCICITIGCCCAGACCAIGACICAGAIAGTICAGGIAAAGAICCIAGAAACAGCCA 312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGAGCATCACTCAGACCATGAGCGTCACTCAGACCATGAGCATCACTCAGACCACGAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                    TCACTCTGACCATGATCATCTCTCACTCTAATCATGCTGCTTCTGGTAAAAATAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGGGAAAGGAGCTCACCGACCAGAACATGCCAGTGGTAGAAGGAATGTCAAGGACAGTGT
                                                                                                                                                                                                         Gaps
; NAME/KEY: misc_feature
; LOCATION: 4, 583, 690, 713, 714, 721, 731, 756, 787, 788, 790, 792,
; LOCATION: 800, 802, 804, 811, 816, 832, 838, 840, 844, 854, 859, 873,
; LOCATION: 875, 887, 888, 898
; OTHER INFORMATION: n = A,T,C or G
US-10-198-846-7874
                                                                                                                                                                                                       ;
0
                                                                                                                                                          Score 331.8; DB 14; Length 905;
Pred. No. 2.2e-84;
0; Mismatches 7; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Wang, Tongtong
APPLICANT: Wang, Tongtong
APPLICANT: Wang, Tongtong
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY
TITLE OF INVENTION: COMPOSITIONS OF HEAD AND NECK CANCER
FILE REPRENCE: 210121.540
CURRENT APPLICATION NUMBER: US/09/920,455
CURRENT APPLICATION NUMBER: US/09/920,455
NUMBER OF SEQ ID NOS: 275
SEQ ID NOS: 275
SEQ ID NO 250
SEQ ID NO 250
LENGTH: 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 337;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TAGTGCTAGTGAAGTGACCTCAACTGTGTACAACACTGTCTCT 588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 319.2; DB 1 Pred, No. 4.4e-81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 250, Application US/09920455
Patent No. US20020168647A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCATION: 42, 43

CHER INFORMATION: n = A, T, C or G

US-09-920-455-250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14.18;
                                                                                                                                                          ch 14.6%;
al Similarity 98.0%;
336; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best_Local Similarity 98.5
Matches 321; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 11
US-09-920-455-250
                                                                                                                                                                                                                                                                                         73
                                                                                                                                                                                                                                                                                                                                    306
                                                                                                                                                                                                                                                                                                                                                                          133
                                                                                                                                                                                                                                                                                                                                                                                                                    998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                              Query Match
                                                                                                                                                                                Best Local
Matches 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE
```

g

QΥ

ð g QΫ H

```
ACTGGCCGTTGGGACTTTGAGTGGTGATGCTTTTTAACACCTTCTTCCACATTCTCATGC 1148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTAGCTGTAGGAACAATGAGTGGAGACGCCCTTCTTCATCTACTGCCCCATTCTCAGGG 1551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGTCACCACCATAGTCATAGCCATGAAGAACCAGCAATGGAAATGAAAAGAGGACCACT 1208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1552 TGGACATGATCACAGTCACCAACATGCACA--------TGGGCCATGGACATTC 1596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1269 GGGTCTAACAGCTCTAGGAGGCCTGTATTTCATGTTCTTGTTGAACATGTCCTCACATT 1328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GATCAAACAATTTAAAGATAAGA---AGAAAAGAATCAGAAGAAACCTGAAAATGATGA 1385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTTTAAGCACTACAACAACAAGAGGAAAACAGAAATGGTTTATGAAACAGAACAGA 1767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1768 AGAATCAACTATTGGAAGAAAGCTTTCAGATCACAAGTTAAACAATACACCAGATTCTGA 1827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAAAGTAGATACAGATGATCGAACTGAAGGCTATTTACGAGCAGACTCACAAGAGCCCTC 1505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1828 CIGGCIICAACICAAGCCICITIGCCGGAACIGAIGACTCGGTTGTTTCTGAAGATCGACT 1887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    888 TAATGAAACTGAACTGACAGATTTAGAAGGCCAACAAGAATCCCCTCCTAAAATTACCT 1947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             969 AGCCTGGGTTGGTGGTTTTATAGCCATTTCCATCATCAGTTTCCTGTCTCTGTGGGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1372 AGCCTGGATTTGTGGTATCATTTCTATCACTGTCATTAGCCTGCTTTCCTTGCTAGGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1029 TATCTTAGTGCCTCTCATGAATCGGGTGTTTTTCAAATTTCTCCTGAGTTTCCTTGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTTCAGTCATCTGTCTTCTCAAAACATAGAAGAAAGTGCCTATTTTGATTCCACGTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGACTTGTTGCTCTAGGAGGCATTTACTTGCTATTTATCATTGAACACTGCATTAGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGATGTGGAGATTAAGAAGCAGTTGTCCAAGTATGAATCTCAACTTTCAACAATGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCACTTTGATTCTCAGCAGCCTGCAGTCTTGGAAGAAGAAGAAGACGTCAJGATAGCTCATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1566 TCATCCACAGGAAGTCTACAATGAATATGTACCCAGAGGGTGCAAGAATAAATGCCATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 5330;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                              GENERAL INFORMATION:
APPLICANT: Ni et al.
TITLE OF INVENTION: 52 Human secreted proteins
FILE REPERENCE: PZ043P1
CURRENT APPLICATION NUMBER: US/09/789,561
CURRENT FILING DATE: 2001-02-22
PRIOR APPLICATION NUMBER: PCT/US00/24008
PRIOR FILING DATE: 1099-09-03
PRIOR FILING DATE: 1999-09-03
PRIOR APPLICATION NUMBER: 60/152,317
PRIOR FILING DATE: 1999-09-03
PRIOR APPLICATION NUMBER: 60/152,315
PRIOR APPLICATION NUMBER: 60/152,315
PRIOR APPLICATION NUMBER: 60/152,315
PRIOR FILING DATE: 1999-09-03
SOFTWARE: PALENTING DATE: 1999-09-03
SOFTWARE: PALENTING VAI: 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 319; DB 9; Lv
Pred. No. 3.9e-80;
0; Mismatches 535;
                                     Sequence 14, Application US/09789561
Patent No. US20020064818A1
                                                                                                                                                                                                                                                                                                                                                                                                                                   Ouery Match 14.1%;
Best Local Similarity 56.3%;
Matches 736; Conservative
                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
CORGANISM: Homo sapiens
US-09-789-561-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ΟŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δž
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                \vec{\Omega}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2105
                                                                                                                                             1385
                                                                                                                                                                                                                                                     1016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1614 CAATAACATCACACTTTGGATCTTTGCAGTCACTGCAGGCATGTTCCTCTATGTAGCCTT 1673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2160 CCGCTGGGGGTATTTCTTTTACAGAATGCTGGGATGCTTTTGGGTTTTGGAATTATGTT 2219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1926 IGACTITIGCTGTTCTACTAAAGGCTGGCATGACCGTTAAGCAGGCTGTCCTTTATAATGC 1985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GATCAAACAATTTAAAGATAAGA----AGAAAAAGAATCAGAAGAAGCTGAAAATGATGA
                                                                                                                                                                                                                                                                                                                                                                                               1077 TAATGAAACIGAACTGACAGATTTAGAAGGCCAACAAGAATCCCCTCCTAAAATTACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCATATTCTCCCATCATCACCACCACCAAAACCACCATCCTCACAGTCACAGCGCGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1314 TTCTGGATCCGATCTGAAAGAAACAGGAATAGCTAATATAGCCTGGATGGTGATCATGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1554 CCTCTCTGCCATGATGGCTTACATAGGCATGCTCATAGGCACAGCTGTTGGTCAGTATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGTTGATATGGTACCTGAAATGCTGCACAATGATG-----CTAGTGACCATGGATGTAG
TITCAGICAICIGICITCICAAAACAIAGAAGAAAGIGCCIAIITIGAIICCACGIGGAA
                                                                                                                                                                                                                 TGATGTGGAGATTAAGAAGCAGTTGTCCAAGTATGAATCTCAACTTTCAACAAATGAGGA
                                                                                                                                                                                                                                                   957 AGAATCAACTATTGGAAGAAGCTTTCAGATCACAAGTTAAACAATACAGATTCTGA
                                                                                                                                                                                                                                                                                     GAAAGTAGATACAGATGGAACTGAAGGCTATTTACGAGCAGACTCACAAGAGCCCTC
                                                                                                                                                                                                                                                                                                                         1017 CIGGCITCAACTCAAGCCICTIGCCGGAACIGAIGACTCGGITGITICTGAAGAICGACI
                                                                                                                                                                                                                                                                                                                                                             1506 CCACTITGAITCICAGCAGCCIGCAGICITGGAAGAAGAAGAGGGCAIGAIAGCICAIGC
                                                                                                                                                                                                                                                                                                                                                                                                                                   TCATCCACAGGAAGTCTACAATGAATATGTACCCAGAGGGTGCAAGAATAAATGCCATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACATTTCCACGATACACTCGGCCAGTCAGACGATCTCATTCACCACCATCATGACTACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTCTCGGGAGGAGCTGAAAGATGCCGGCGTCGCCACTTTGGCCTGGATGGTGATAATGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGATGGCCTGCACAATTTCAGCGATGGCCTAGCAATTGGTGCTGCTTTTACTGAAGGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCAAGTGGTTTAAGTACTTCTGTTGCTGTTCTGTCATGAGTTGCCTCATGAATTAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTGTCAGCCATGCTGGCGTATCTTGGAATGGCAACAGGAATTTTTCATTGGTCATTATGC
                                                                       GGGTCTAACAGCTCTAGGAGGCCTGTATTTCATGTTCTTGTTGAACATGTCCTCACATT
                                                                                                                                                                             GTTTAAGCACTACAAACAAAAAGAGGAAAACAGAAATGGTTTATGAAACAGAACACAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACTIATITICCATATITICAACATAAAATCGTGTTTCGTATAAATTTCT 2266
                                                                                                                                             1329
                                                                                                                                                                                                                 1386
                                                                                                                                                                                                                                                                                         1446
                                                                                                                                                                                                                                                                                                                                                                                                                                   1566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2106
                                                                       1269
                                                                                                                                                                               897
                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΣ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \Omega
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                      ρβ
                                                                                                                                         QΫ
                                                                                                                                                                          ద
                                                                                                                                                                                                                 ã
                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                                                           Ω
                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                 Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δŽ
                                  원
                                                                       δŽ
```

36;

```
US-10-198-846-1455/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1849 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    65
                                                                                                                                                                                                                                                                                                                                                        δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                             δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                               1805
                                                                                                                                                                                   2184
                                                                                                                                                                                                                        1865
                                                                                                                                                                                                                                                                                                                                                                                                                                                   2045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2219
                                                                        2185 GGATGGCATCCACAACTTCAGTGATGGGCTCGCAATTGGTGCAGCTTCAGTGCTGGATT 2244
                                                                                                                                                                                                                                                                                                   1866 ATCAAGTGGTTTAAGTACTTCTGTTGCTGTTTTGTGTTCATGAGTTGCCTCATGAATTAGG 1925
                                                                                                                                                                                                                                                                                                                                                                          1926 TGACTTTGCTGTTCTACTAAAGGCTGGCATGACCGTTAAGCAGGCTGTCCTTTATAATGC 1985
                                                                                                                                                                                                                                                                                                                                                                                                 GGTTGATATGGTACCTGAAATGCTGCACAATGATG-----CTAGTGACCATGGATGTAG 2159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACATTICCACGATACACTCGGCCAGICAGACGAICTCAITCACCACCAICATGACTACCA 1685
                                                                                                          2065 GAGGAAGCATAATCACCAGTGGCACCACAAGCATTCTCATCATTCCCATGGCCCCTGTCA 2124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2365 CCTCTCTGCCAJGATGGCTTACATAGGCAJGCTCATAGGCACAGGCTGTTGGTCAGTATGC 2424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 9288, Application US/10198846

Publication No. U52003009974A1

GENERAL INFORMATION:

APPLICANT: Lillie, James
APPLICANT: Lillie, James
APPLICANT: Lillie, James
APPLICANT: Lillie, James
APPLICANT: Mang, Tourhen

APPLICANT: Wang, Tourhen

TITLE OF INVENTION: POR IDENTIFICATION, ASSESSMENT, PREVENTION, AND

TITLE OF INVENTION: THEREY OF BREAST CANCER

FILE REPREMENT PHILICATION NUMBER: US/10/198,846

CURRENT PILLING DATE: 2002-07-18

PRIOR PILLING DATE: 2001-07-18

PRIOR FILLING DATE: 2001-07-18

NUMBER OF SEQ ID NOS: 1406-4

NUMBER OF SEQ ID NOS: 1406-4

NUMBER OF SEQ ID NOS: 1406-4
                       -CATGAGCATGATCTCCATGCTGCTGCACATAACCACGGCGAGAACAAAACTGTGCT
                                                                                                                                                                     TGATGGCCTGCACAATTTCAGCGATGGCCTAGCAATTGGTGCTGCTTTTACTGAAGGCTT
                                                                                                                                                                                                                                                                                                                       1986 ATTGTCAGCCATGCTGGCGTATCTTGGAATGGCAACAGGAATTTTCATTGGTCATTATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2046 IGAAAAIGIIICIAIGIGGAIAITIGCACIIACIGCIGGCIIATICAIGIAIGIIGCICCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2425 CAATAACATCACACTTTGGATCTTTGCAGTCACTGCAGGCATGTTCCTCTATGTAGCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2160 CCGCTGGGGGTATTTCTTTTACAGAATGCTGGGATGCTTTTGGGTTTTTGGAATTATGTT
                                                                                                                                                 CTCTCGGGAGGAGCTGAAAGATGCCGGCGTCGCCACTTTGGCCCTGGATGGTGATAATGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: misc_feature
LOCATION: 8, 11, 42, 262, 279, 324, 333, 337, 344, 346, 349, 352, 374,
LOCATION: 381, 383, 399, 400, 401, 415, 417, 427, 430, 431, 432, 439,
LOCATION: 445, 454, 457, 458, 459, 464, 468, 469, 470, 473, 475, 477,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2220 ACTTATTTCCATATTTGAACATAAAATCGTGTTTCGTATAAATTTCT 2266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2605 GGTGATTGCCCTCTATGAGATAAATTGTGTTTGACATCCAGTTTT 2651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 14
US-10-198-846-9288/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 9288
LENGTH: 721
                                                                                                                                                                                                                        1806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2106
                                                                        1686
                                                                                                                                               1746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2485
                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                          ά
                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ă
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <del>Q</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                      QΥ
                                                                                                          g
                                                                                                                                                 QΫ
                                                                                                                                                                                 g
                                                                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                     g
```

```
1610 AGAATAAATGOCATTCACATTCCACG-ATACACTCGGCCAGTCACACGATCTCATTCAC 1668
                                                                                                                                                                                                                                                                                                                                                                                              1550 TCATGATAGCTCATGCTCATCCACAGGAAGTCTACAATGAATATGTACCCAGAGGGTGCA 1609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1729 AGTCACCAGCCAGCGCTACTCTCGGGAGGAGCTGAAAGATGCCGGCGTCGCCACTTTGGCC 1788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1789 TGGATGGTGATAATGGGTGATGGCCTGCACAATTTCAGCGATGGCCTAGCAATTGGTGCT 1848
                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1455, Application US/10198846

Publication No. US20030099974A1

Publication No. US20030099974A1

APPLICANT: Lillie, James

APPLICANT: Lillie, James

APPLICANT: Wandy Youzhen

APPLICANT: Steinmann, Kathleen

TITLE OF INVENTION: THERAPY OF BREAST CANCER

TITLE OF INVENTION NUMBER: US/10/198,846

CURRENT APPLICATION NUMBER: 60/306,220

PRIOR FILING DATE: 2001-07-18

NUMBER OF SEQ ID NOS: 14084

SOFURMER: FASEEEQ for Windows Version 4.0

SEQ ID NO 1455

LENGTH: 504
                                                                                         589,
628,
676,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NANE/KEY: misc_feature

; LOCATION: 2, 3, 5, 7, 9, 69, 211, 224, 360, 405, 435, 454, 488, 493

; OTHER INFORMATION: n = A,T,C or G

US-10-198-846-1455
                                                                                         585, 587, 3626, 627, 671, 673, 671, 712, 713
                                                                                                                                                                                                                                                                                                                                                          1;
                                                                                                                                                                                                                                                                                                               Score 268; DB 14; Length 721;
Pred. No. 4.1e-66;
0; Mismatches 35; Indels
            547
                                                                                           581,
625,
664,
706,
            545,
                                                                                           580,
623,
658,
703,
            536,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCTTTTACTGAAGGCTTATCAAGTGGTTTA 1878
            529,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
522, 555, 559, 560, 564, 565, 500, 593, 594, 600, 604, 609, 629, 642, 643, 644, 647, 648, 679, 681, 691, 694, 695, 696,
            519,
COMMENT 188, 493, 495, 504, 509, OTHER INFORMATION: n = A,T,C or G PERJURE:
                                                                   NAME, KET: misc_feature
LOCATION: 552, 555, 559, 560, 564,
LOCATION: 590, 593, 594, 600, 604,
LOCATION: 679, 642, 643, 647,
LOCATION: 679, 681, 691, 695,
OTHER INFORMATION: n = A,r,C or G
                                                                                                                                                                                        FEATURE:
NAME/KEY: misc_feature
LOCATION: 714, 718
US-10-198-846-9288
                                                                                                                                                                                                                                                                                                                 11.8%;
89.1%;
                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 89.1
Matches 294; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA ORGANISM: Homo sapiens FEATURE:
```

```
1168 AGCCATGARGARCCAGCAATGGAAATGAAAAGGACCACTTTTCAGTCA-TCTGTCTTC 1226
                                                                                                                                               1338 ATTTAAAGATAAGAAGAAAAAGAATCAGAAACCTGAAAATGATGATGATGTGGAGAT 1397
                                                                                                                                                                                                                      1454 ATACAGATGATCGAACTGAAGGCTATTTACGAGCAGACTCACAAGAGCCCTCCCACTTTG 1513
                                                                                                                                                                 258
                                                                                                                                                                                                                                 Gaps
                  42; Indels 15;
Query Match 11.2%; Score 253; DB 14; Length 504; Best Local Similarity 87.2%; Pred. No. 6.6e-62; Matches 389; Conservative 0; Mismatches 42; Indels 19
                                                                                                                                                                                                                                                                                             AGGAAGTC-TACAATGAATATGTACC 1598
                                                                                                                                                                                                                                                                                                     AGGAAGTCNTACAATGAATATGTACC 52
                                                                                                                                                                                                                                                                                            1574
                                                                                                                                                                                                                                                                                                              77
                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                             δ
                                      ŏ
                                                     g
                                                                         δ
                                                                                        g
                                                                                                           QΣ
                                                                                                                            qq
                                                                                                                                               δ
                                                                                                                                                             g
                                                                                                                                                                                   à
                                                                                                                                                                                                    g
                                                                                                                                                                                                                     Ö
                                                                                                                                                                                                                                                          δŽ
```

Search completed: September 12, 2003, 22:12:52 Job time : 529:999 secs

```
September 12, 2003, 16:55:50; Search time 73 Seconds (without alignments) 1641.624 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A_Geneseq_19Jun03:*

| A_SIDSI/gcgdata/geneseq_geneseqp-embl/AA1981.DAT:*
| STDSI/gcgdata/geneseq_geneseqp-embl/AA1981.DAT:*
| STDSI/gcgdata/geneseq_geneseqp-embl/AA1981.DAT:*
| STDSI/gcgdata/geneseq_geneseqp-embl/AA1982.DAT:*
| STDSI/gcgdata/geneseq_geneseqp-embl/AA1984.DAT:*
| STDSI/gcgdata/geneseq_geneseqp-embl/AA1985.DAT:*
| STDSI/gcgdata/geneseqg-embl/AA1985.DAT:*
| STDSI/gcgdata/geneseqg-embl/AA1985.DAT:*
| STDSI/gcgdata/geneseqg-embl/AA1989.DAT:*
| STDSI/gcgdata/geneseqg-embl/AA1981.DAT:*
| STDSI/gcgdata/geneseqg-embl/AA1981.DAT:*
| STDSI/gcgdata/geneseqg-embl/AA1991.DAT:*
| STDSI/gcgdata/geneseqg-embl/AA1991.DAT:*
| STDSI/gcgdata/geneseqg-embl/AA1991.DAT:*
| STDSI/gcgdata/geneseqg-embl/AA1991.DAT:*
| STDSI/gcgdata/geneseqg/geneseqp-embl/AA1991.DAT:*
| STDSI/gcgdata/geneseqg/geneseqp-embl/AA1991.DAT:*
| STDSI/gcgdata/geneseqg/geneseqp-embl/AA1991.DAT:*
| STDSI/gcgdata/geneseqg/geneseqp-embl/AA1991.DAT:*
| STDSI/gcgdata/geneseqg/geneseqg-embl/AA1991.DAT:*
| STDSI/gcgdata/geneseqg/geneseqg-embl/AA1999.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4024
1 MARKLSVILILTFALSVTNP......FGIMLLISIFBHKIVFRINF 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /SIDSI/gcgdata/geneseq/geneseqr-embl/AA2000.DAT:*/SIDSI/gcgdata/geneseq/geneseqp-embl/AA2001.DAT:*/SIDSI/gcgdata/geneseq/geneseqp-embl/AA2001.DAT:*/SIDSI/gcgdata/geneseq/geneseqp-embl/AA2002.DAT:*/SIDSI/gcgdata/geneseq/geneseqp-embl/AA2003.DAT:*
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1107863 segs, 158726573 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing: Minimum Match 10%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                               OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-642-034-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Searched:
                                                                                                                                                                                                                                                                                                                    Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Title:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description	Prostate cancer-as	Human breast cance	Human bladder canc	Lung cancer-associ	Human protein, hom	Human LIV-1-164647	Breast cancer-asso	Breast cancer asso	Oestrogen-regulate
SUMMARIES	ឲ្	ABG61889	AAM51198	ABR48228	ABU56608	ABG76949	AAE07206	ABJ05550	ABR47514	AAU74631
	80	23	23	24	24	23	22	23	24	23
	Query e Match Length DB	755	755	755	755	755	755	755	749	746
op (Match	100.0	100.0	100.0	100.0	66.66	8.66	99.7	98.6	98.1
	Score	4024	4024	4024	4024	4020	4017	4011	3969	3948
1	No.	П	7	e	4	ın	9	7	æ	o

(EOSB-) EOS BIOTECHNOLOGY INC

	22222222222222222222222222222222222222	.1 752 24 ABU37050 .0 752 22 AAE07205	.8 431 19 AAW34528 Protei .4 431 17 AAR98004 Oestro	.0 397 21 AAB56953	.2 831 22 AAB87345 Human	.2 831 23 ABG65404 Human	.2 831 23 ABB97347	.0 829 23 AAU74629 Oestro	.7 298 23 AAM51199	.5 195 24 ABU70466	.2 528 23 AAU74630	.8 684 22 ABB62691	.8 684 23	.3 540 21 AAY57930	.2 535 23	.7 492 23 ABG65035 Human	.7 492 23 AAU91358	.7 492 23 AAU74621	.7 531 20 AAY05376 Human HCMV	.7 537 22 AAB60496	.7 537 23 AAU74622 Oestrogen-	.1 540 22 AAU30977	.8 160 22 AAM93460	.5 460 22 AAG81272	.5 460 23 AAU74624	.5 460 23 ABBO4723	.4 462 23 AAU74623	.3 517 23 AAU74627	.3 519 22 ABB71162	.3 519 23 AAU74628 Oestro	393 22 AAB95761	.2 406 23 ABB89582	7 660 23 AAU74620 Oestro	7 691 23 ABP43482
~ ~ + + + 0 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	<u> </u>	H 0	∞. 4.	0.	7	7	~	0.	.7	ī.	7.	ω,	ω.	۳.	7.	.7	.7	.7	.7.	.7	.7	Н.	ω.	٦.	٦.	ι.	4.	٣.	m.	m.	7.	7.	.7	۲.

ALIGNMENTS

```
Prostate cancer; prostate tumour tissue; human; mammal; cytostatic.
                                                                          Prostate cancer-associated protein #90.
                 ABG61889 standard; Protein; 755 AA.
                                                                                                                                                                                                               2000US-0733742.
2001US-263957P.
2001US-276791P.
2001US-276888P.
                                                                                                                                                                                                                                                       06-APR-2001; 200105-281922P.
24-APR-2001; 200105-286214P.
30-APR-2001; 200105-0847046.
04-MAY-2001; 200105-288589P.
                                                                                                                                                                         12-0CT-2001; 2001WO-US32045.
                                                                                                                                                                                             2000US-0687576.
2000US-0733288.
                                                      15-AUG-2002 (first entry)
                                                                                                                                   WO200230268-A2.
                                                                                                                                                                                             13-OCT-2000; 2
08-DEC-2000; 2
08-DEC-2000; 2
                                                                                                                                                                                                                           24-JAN-2001; 2
16-MAR-2001; 2
16-MAR-2001; 2
                                                                                                                                                       18-APR-2002
                                                                                                                 Mammalia.
                                     ABG61889;
RESULT 1
        ABG61889
```

```
NALSAMLAYIGMATGIFIGHYAENVSMWIFALTAGLFWYVALVDMVPEMLHNDASDHGCS 720
                                                                                                                                      Screening for drugs that affect expression of the breast cancer 4 gene or its fragments, use of these to treat prostate and breast cancer, and diagnosing these diseases
                                                                                  MGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLY
                                                   MGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The presence sequence is that of the protein encoded by the human breast cancer 4 gene (BCR4) on chromosome 18 (see ABA92299). The
                                                                                                                                                                                                                                                                                                                                                                                                                                               BCR4; human; breast cancer 4 gene; prostate cancer; diagnosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note= "putative transmembrane domain"
730..745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "putative transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    putative transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "putative transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         putative transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                               Human breast cancer 4 gene (BCR4)-encoded protein.
                                                                                                                                                                                        RWGYFFLQNAGMLGFGIMLLISIFEHKIVFRINF 755
                                                                                                                                                                                                        "putative transmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1..20
/label= Signal_peptide
21..755
/label= Mature_protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                           AAM51198 standard; Protein; 755 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example 4; Fig 2; 83pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (EOSB-) EOS BIOTECHNOLOGY INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Wilson KE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0642034.
2000US-0733320.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-AUG-2001; 2001WO-US25997.
                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "p|
663..679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ..346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ..368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ..444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       688..703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= '
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2002-242033/29.
N-PSDB; ABA92299.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mack D, Gish KC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   therapy; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO200216939-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18-AUG-2000;
08-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                             10-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28-FEB-2002.
                                                   601
                                                                                    601
                                                                                                                                                                                        721
                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                             AAM51198;
                                                                                                                      199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Domain
                                                                                                                                                                                                                                                                                         RESULT 2
                                                   δŽ
                                                                                    셤
                                                                                                                      ð
                                                                                                                                                  g
                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                        임
                                                                                                                                                                                                                   The present invention relates to methods of detecting a prostate cancer-associated transcript in a cell from a patient. The method comprises contacting a biological sample from the patient with prostate cancer-associated polynucleotides (designated PC genes) that selectively hybridise to a sequence that is at least 80% identical to them. The prostate cancer-associated polynucleotide sequences are differentially expressed in prostate tumour tissue or in prostate cancer and are derived from the tissues of various organisms such as humans or other mammals (e.g. mice, sheep and dogs). The methods of the invention are useful for diagnosing and treating prostate cancer in mammals. The prostate cancer as well as for identifying modulators of prostate cancer rassociated genes are useful for diagnosing or treating prostate cancer, as well as for identifying modulators of prostate cancer raspents that inhibit prostate cancer. The nucleic acid sequences are particularly useful in gene therapy, as a vaccine or in antisense applications.

ABG61800-ABG61944 represent prostate cancer-associated proteins.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKKNQKKPENDDDVEIKKQLSKYESQLSTN 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541 HSHFHDTLGQSDDLIHHHHDYHHILHHHHQNHHPHSHSQRYSREELKDAGVATLAMMVI 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MARKLSVILILIFALSVINPLHELKAAAFPQTIEKISPNWESGINVDLAISTRQYHLQQL 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHHDHDHHSDHEHHSDHERHSDHEHHSDH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRRNVKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LVALLAVGTLSCDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MARKLSVILLIFFALSVINPLHELKAAAFPQTIEKISPNWESGINVDLAISTRQYHLQQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                      Detecting a prostate cancer-associated transcript in a cell in a patient, useful for diagnosing prostate cancer (PC) or screening modulators of PC, by determining if prostate cancer-associated genes are expressed in a prostate tissue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; Score 4024; DB 23; Length 755;
; Pred. No. 0;
0; Mismatches 0; Indels 0;
                   ġ,
                     Hevezi
                     Ď
                     Afar
                                                                                                                                                                                          27; Page 375; 436pp; English.
                     Wilson KE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 100.'
Matches 755; Conservative
                                                   2002-471335/50.
                   Mack DH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   755 AA;
                                                                    N-PSDB; ABK92205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                     Gish KC,
                                                                                                                                                                                          Claim
```

δ g δŽ qq δλ a δŽ g δ ద Ω g

g δ 셤 δž 셤

ò

```
ó;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHHDHDHFSDHEHHSDHERHSDHFHSDH 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRRNVKD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LVALAVGTLSGDAFLHLLPHSHASHHRSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDS 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TWKGLTALGGLYFWFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTN 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKKNQKKPENDDDVEIKKQLSKYESQLSTN 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HSHFHDTLGQSDDLIHHHHDTHHILHHHHQNHHPHSHSQRYSREELKDAGVATLAWMVI 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVDMVPEMLHNDASDHGCS 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EEXVDTDDRTEGYLRADSQEPSHPDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MARKLSVILILTFALSVINPLHELKAAAFPQTTEKISPNWESGINVDLAISTRQYHLQQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RSCLIHTSEKKAEIPPRITSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFRFLLSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MARKLSVILILIFALSVTNPLHELKAAAFPQTTEKISPNWESGINVDLAISTRQYHLQQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDA
                                            derived from multiple tissues. The invention provides claimed methods of using BCR4 polyuuclectides, polypeptides and antibodies to: screen drug candidates; screen bloactive agents capable of binding BCR4; evaluate the effect of a prostate cancer and/or breast cancer drug; diagnose prostate cancer or breast cancer; screen for a bloactive agent capable of interfering with the binding of BCR4 to an antibody which binds BCR4; neutralise the effect of BCR4 (e.g. prostate cancer or breast cancer using an inhibitor of BCR4 (e.g. an antibody); localise a therapeutic molety to, or treat, prostate cancer or breast cancer tissue by conjugating an antibody for BCR4 to a cytotoxic agent or radioisotope, inhibit prostate cancer or breast cancer by administering an antisense molecule to the present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                               nucleic acid sequence; elicit an immune response by administering BCR4 or a nucleic acid encoding BCR4; and determine the prognosis of an individual with prostate cancer or breast cancer by determining the level of BCR4 in a sample, a high level indicating
gene was identified as being up-regulated in specific cancers in an oligonucleotide microarray interrogated with CRNAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 23; Length 755;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 4024; 100.0%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     755; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
Matches 755; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    755 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sednence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
```

 Q7 Db DD OX OX OX OX OX OX OX

δy

```
The present invention describes a method for detecting a bladder cancerassociated transcript in a cell from a patient. The method comprises contacting a biological sample from the patient with a polynucleotide that selectively hybridises to a sequence that is 80 % identical to a table of sequences (see ACC50951 to ACC51059). ACC50951 to ACC51059 encode the human bladder cancer-associated proteins given in ARM48146 to ARM48242). Bladder cancer-associated proteins given in ARM48146 to ARM48242). Bladder cancer-associated sequences from the present invention have cytostatic activities, and can be used in antisense gene therapy and in vaccine production. The method can be used for detecting a bladder cancer-associated transcript in a cell from a patient. The method is useful in diagnosing or treating bladder cancer and in screening for compounds that modulate bladder cancer, such as hormones or antibodies.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FYRYGENNSLSVEGFRKILQNIGIDKIKRIHIHHDHDHHSDHEHHSDHERHSDHEHHSDH 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Detecting a bladder cancer-associated transcript in a cell from a patient, comprises contacting a biological sample from the patient with a bladder cancer-associated polynuclectide or antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The nucleic acid molecules from the present invention may be used in various screening and diagnostic methods, and for gene therapy, vaccine and/or antisense/inhibition applications.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MARKLSVILILTFALSVTNPLHELKAAAFPQTTEKISPNWESGINVDLAISTRQYHLQQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                        Human bladder cancer associated protein sequence SEQ ID NO:177.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 24; Length 755;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; bladder cancer; cytostatic; gene therapy; vaccine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ó
                                   721 RWGYFFLQNAGMLLGFGIMLLISIFEHKIVFRINF 755
RWGYFFLQNAGMLLGFGIMLLISIFEHKIVFRINF 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 4024; 100.0%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 10; Page 290; 307pp; English.
                                                                                                                                                                                                                                    A
                                                                                                                                                                                                                                    755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (EOSB-) EOS BIOTECHNOLOGY INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             03-JUL-2001; 2001US-302814P.
03-AUG-2001; 2001US-310099P.
08-NOV-2001; 2001US-343705P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12-APR-2002; 2002US-372246P.
                                                                                                                                                                                                                                    ABR48228 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                03-JUL-2002; 2002WO-US21338.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2001US-350666P
                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 755; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2003-201532/19.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    755 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Aziz N;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB; ACC51044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO2003003906-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13-NOV-2001;
                                                                                                                                                                                                                                                                                                                                                                        12-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16-JAN-2003
721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                    ABR48228;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mack DH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                    ABR48228
                                                            g
                                                                                                                                                                                                                                                                                                    NAMES OF COLORS 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
   δ
```

g δŽ 셤 g δ g δý Q

 $^{\circ}$

P

QY

g

Qγ

qq δý g ğ g

Ω

```
Query Match 100.
Best Local Similarity 100.
Matches 755; Conservative
  QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ΩŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \nabla \Delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ΩŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             쉱
                                                                  240
                                                                                                              300
                                                                                                                                                         360
                                                                                                                                                                              360
                                                                                                                                                                                                    420
                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                     009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lung cancer-associated polypeptide; cytostatic; emphysema; autilnflammatory; antiasthmatic; non-small cell lung cancer; atelectasis; small cell lung cancer; benign lesion, precancerous lesion, bronchitis; chronic obstructive pulmonary disease; hypersensitivity pneumonitis; interstitial pulmonary fibrosis; fibrosis; asthma; bronchiectasis.
                       180
                                            180
                                                                                                                                    300
                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                           009
                                                                                                                                                                                                                                                                                                                                                                                 099
                                                                                                                                                                                                                                                                                                                                                                                                     099
                                                                                                                                                                                                                                                                                                                                                                                                                           720
                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                       61 FYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHHDHDHHSDHEHHSDHERHSDHEHHSDH
                                 NESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDA
                                                                                                                                                                      RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPIMNRVFFKFLLSF
                                                                                                                                                                                                               TWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTN
                                                                                                                                                                                                                                                           EEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKC
                                                                                                                                                                                                                                                                                                      HSHFHDTLGQSDDLIHHHHDYHHILHHHHQNHHPHSHSQRYSREELKDAGVATLAWMYI
                                                                                                                                                                                                                                                                                                                                                           HSHFHDTLGQSDDLIHHHHDYHHILHHHHQNHHPHSHSQRYSREELKDAGVATLAWMVI
                                                                                                                                                                                                                                                                                                                                                                                            NALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVDMVPEMLHNDASDHGCS
                                                                                                                                                                                                                                                                                                                                                                                                                                       EHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRRNVKD
                                                                 SVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT
                                                                                                                                                        RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF
                                                                                                                                                                                                   LVALAVGTLSGDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDS
                                                                                                                                                                                                                                                                                                                                                                                MGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RWGYFFLQNAGMLLGFGIMLLISIFEHKIVFRINF 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cancer-associated polypeptide #201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABU56608 standard; Protein; 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-APR-2001; 2001US-284770P.
10-MAY-2001; 2001US-290492P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18-APR-2002; 2002WO-US12476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200286443-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-APR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31-OCT-2002
                                           121
                                                               181
                                                                                      181
                                                                                                            241
                                                                                                                                  241
                                                                                                                                                        301
                                                                                                                                                                             301
                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                      121
                                                                                                                                                                                                   361
                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                          199
                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABU56608;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lung
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
```

g QΔ g

QΣ

120 120 180 180 240 240 300 300 360 360 420

FYRYGENNSLSVEGFRKLLONIGIDKIKRIHIHHDHDHHSDHERHSDHERHSDH

FYRYGENNSLSVEGFRKLLONIGIDKIKRIHIHHDHDHHSDHEHHSDHERHSDH

MARKLSVILILTFALSVTNPLHELKAAAFPQTTEKISPNWESGINVDLAISTRQYHLQQL

Η.

61

61

EHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRRNVKD

121 121 SVSASEVTSTVYNTVSECTHFLETLETPERPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT

181

181

SVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT

NESVSEPRKGFMISRNINENPQECFNASKILITSHGMGIQVPLNATEFNYLCPAIINQIDA

241

301 301 361 361

241

RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF LVALAVGTLSGDAFLHILPHSHASHHESPAMEMKRGPLFSHLSSQNIEESAYFDS

NESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDA

9 9

Gaps 0;

Length 755; Indels

24; ; 0 DB

100.0%; Score 4024; 100.0%; Pred. No. 0; ive 0; Mismatches

```
The invention relates to a method for detecting a lung cancer-associated transcript in a cell from a patient, comprising contacting a biological sample from the patient with a polymucleotide that selectively hybridises to a sequence that is at least 80 % identical to a gene that exhibits concer-associated polymcleotides and polypeptides are used for increased or decreased expression in lung cancer samples. Lung cancer-associated polymcleotides and polypeptides are used for inhibiting proliferation of a lung cancer-associated polypeptide, for inhibiting proliferation of a lung cancer-associated cell to treat lung cancer in a patient and for treating a mammal having methods are useful for treating lung cancer, such as small cell lung cancer, non-small cell lung cancer or other benign or precancerous cancer, non-small cell lung cancer or other benign or precancerous pulmonary disease, fibrosis, hypersensitivity pneumonitis, interstitial pulmonary disease, fibrosis, hypersensitivity pneumonitis, interstitial pulmonary disease, fibrosis, asthma and bronchiectasis. The genes, polypucleotides are useful for diagnostic purposes and as targets for screening for therapeutic compounds that modulate lung cancer, such as antibodies. Sequences ABUSSAAS represent lung cancer associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Detecting a lung cancer-associated transcript in a cell from a patient for treating lung cancer, by contacting a biological sample from the patient with a polynucleotide that exhibits increased or decreased expression in lung cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 27; Page 338; 453pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     polypeptides of the invention.
                                                                                                                                                                                          EOS BIOTECHNOLOGY INC.
13-NOV-2001; 2001US-350666P.
29-NOV-2001; 2001US-334370P.
12-APR-2002; 2002US-372246P.
                                                                                                                                                                                                                                                                                                                                                                           2003-093161/08,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           755 AA;
                                                                                                                                                                                                                                                                                     꼾
                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; ABX76337
                                                                                                                                                                                                                                                                                Murray
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                           Ŋ,
                                                                                                                                                                                          (EOSB-)
                                                                                                                                                                                                                                                                                     Aziz
                                                                                                                                                                                                                                                                                                                                                                               WPI;
```

b

```
RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLGVILVPLMRVFFKFILSF 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 FYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHHDHDHHSDHEHHSDHERHSDHEHHSDH 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MARKLSVILILTFALSVTNPLHEIKAAAFPQTIEKISPNWESGINVDLAISTRQFHLQQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 FYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHHHHHHHSDHEHHSDHERHSDHEHHSEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 MARKLSVILILTFALSVTNPLHELKAAAFPQTTEKISPNWESGINVOLAISTRQYHLQQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 99.9
Best Local Similarity 99.9
Matches 754; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       36.1
 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                \nabla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \Omega
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                          099
                                                                                                                                                                                                   540
                                                                                              900
            TWKGLTALGGLYFWFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTN 480
                                                                                                                                                                                                                                                                                                                                                                                                              Human; SEC; NOV; immunosuppressive; hepatotropic; antinflammatory; anglogenic-associated disorder; diagnostic; gene therapy; developmental disorder; immune disease; sinal transduction pathway disorder; immune disease; sinal transduction pathway disorder; metabolic disorder; feeding disorder; obesity; wasting disorder; neurodegenerative disorder; Alzahaimer's disease; Parkinson's disease; behavioural disorder; altergy; authoricsclerosis; cardiomyopathy; angina pectoris; autoimmune disease; retinal disease, dirrhosis; diabetes; infectious disease; human immunodeficiency virus; HTV; cancer; hypertension; hypotension; multiple sclerosis; urinary retention; ossteoporosis; Crohn's disease; ulcer; neurological disorder; anxiety; haemophilia; cirrhosis; immunogen; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         , Boldog F, Shimkets RA, Gorman L, Crasta OR, Mysore KK; J, Martin GB, Elsen A, Spaderna SK, Vernet CAM, Bergh C; Dipippo VA, Zerhusen BD, Peyman JA, Ellerman K; Grosse WM, Alsobrook JP, Lepley DM, Rieger DK; J, Edinger S;
                                                                                                          EEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKC
                                                            HSHFHDTLGQSDDLIHHHHDYHHILHHHHQNHHPHSHSQRYSREELKDAGVATLAWWYI
                                                                                                                                                                                        NALSAMLAYLGMATGIFIGHYAENVSMWIFALITAGLFMYVALYDMYPEMLHNDASDHGCS
                                                                                                                                          MGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLY
                                                                                                                                                                 601 MGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLY
                                                                                                                                                                                                                                                                                                                                                                                          Human protein, homologous to LIV-1, designated NOV1.
                                                                                                                                                                                                                                                 RWGYFFLQNAGMLLGFGIMLLISIFEHKIVFRINF 755
                                                                                                                                                                                                                                                                                                                      ABG76949 standard; Protein; 755 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             , 2001US-261013P.
; 2001US-261014P.
; 2001US-261018P.
; 2001US-261026P.
; 2001US-261029P.
; 2001US-313170P.
; 2001US-318410P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11-JAN-2002; 2002WO-US00609
                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (CURA-) CURAGEN CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200255705-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11-JAN-2001; 2
17-AUG-2001; 3
10-SEP-2001; 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11-JAN-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11-JAN-2001;
11-JAN-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11-JAN-2001;
                                                                                                                                                                                                                                                                                                                                                                  05-NOV-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Folkerts O,
Spytek KA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18-JUL-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Burgess CE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Casman SJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Stone DJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mezes PS,
                                                                                                                                          601
                                               481
                                                                      481
                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                            g
                                                                    g
                                                                                             õ
                                                                                                                g
                                                                                                                                         δ
                                                                                                                                                               셤
                                                                                                                                                                                        δ
                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                             g
                       셤
                                               δ
```

SVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT 240

EHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRRNVKD 180

9

; 0

ö DB 23;

Pred. No. 0; 1; Mismatches Score 4020; Pred. No. 0;

99.98;

755 AA;

Length 755; Indels NESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDA

LVALAVGTLSGDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDS 420

RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF

```
The invention discloses the isolated human polypeptides, and polynucleotides encoding them, that have been designated SECx and NOVX. The polypeptides can be used for treating, or delaying, the onset of an angiogenic associated disorder or treating a pathological state in a subject, preferably a mammal. They can also be used in determining the presence of, or predisposition to, a disease associated with altered levels of the polypeptides and polynucleotides of any one of the 12 sequences (SEC1-12), for raising antibodies, for identifying an agent that binds to, or that madulates the expression or activity of the colyncelectide or the antibody. The polypeptides and polynucleotides are polymeptide, for treating or preventing a NOVX-associated disorder (NOVI-8) and as a pharmaceutical composition comprising the polypeptides are custful in diagnostic applications where their amounts are assessed, or for the manufacture of a medicament (e.g. gene therapy) for treating or preventing disorders or syndromes such as developmental disorders, immune diseases, signal transduction pathway disorders, metabolic disorders, including obesity, wasting disorders, including obesity, wasting disorders, asthma, atherosclerosis, cardiomyopathy, angina pectoris, autoimmune disease, crimosis, cardiomyopathy, angina pectoris, autoimmune disease, atherosclerosis, cirhosis, diabetes, infectious disease (bacterial, fungal, proteate cancer), hypertension, hypotension, multiple scherosis, urinary retention, osteoporosis, cronnos disease, ulcers, neurological disorders (e.g. numanogens to produce antibodies specific for the invention, and as vaccines. Further, they are useful for screening contential agonist and antagonist compounds. The sequences presented in protein an arganist and antagonist compounds. The sequences presented in contential agonist and antagonist compounds. The sequences presented in the numan SEC1-12 and NOVI-8 proteins.
                                                                                                                                                                            Human SECX/NOVX polypeptide useful for diagnosing, preventing or treating disorders associated with aberrant expression or activity of
                                                                                                                                                                                                                                                                                                           SECX/NOVX nucleic acids and proteins e.g., diabetes
                                                                                                                                                                                                                                                                                                                                                                                                                              Page 81; 443pp; English.
2002-590675/63.
                                                               N-PSDB; ABS59534,
                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 16;
```

6

Wed

qq ΩŽ g QY셤 δ da. ď 셤

셤 QΥ

us-09-642-034-5.rag

```
540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TWKGLTALGGLYFWFLVEHVLTLIKQFRDKKKKNQKKPENDDDVEIKKQLSKYBSQLSTN 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKC 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HSHPHDTLGQSDDLIHHHHDYHHILHHHHQNRHPHSHSQRYSREELKDAGVATLAWMVI 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLY 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVDMVPEMLHNDASDHGCS 720
                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                          241 NESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATBFNYLCPAIINQIDA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TWKGLIALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTN 480
                                                                                                                                         9
                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LVALAVGTLSGDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDS
                                                                                                                                                                 FYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHDHDHHSDHEHHSDHERHSDHEHHSDH
                                                                                                                                                                                                                                                                                                        EHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRRNVKD
                                                                                                                                                                                                                                                                                                                                                                                   SVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT
                                                                                                                                                                                                                                                                                                                                                                                                             1 MARKLSVILILTFALSVTNPLHELKAAAFPQTTEKISPNWESGINVDLAISTRQYHLQQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF
                                                                                                0;
                                                            Length 755;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Breast cancer; breast cancer-associated gene sequence; drug development; pharmacogenetics; biosensor development.
                                                                                                  Indels
                                                            22;
                                                                                                  ;;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RWGYFFLQNAGMLLGFGIMLLISIFEHKIVFRINF 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB
                                                                                                  0; Mismatches
                                                          Score 4017;
Pred. No. 0;
                                                                                 Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Breast cancer-associated protein 15.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABJ05550 standard; Protein; 755
                                                       99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                            Query Match
Best Local Similarity 99.9
Matches 754; Conservative
                       Ą;
                     755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14-NOV-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                         ₹9
                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                       Sequence
                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 7
ABJ05550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ΩŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δž
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ρÿ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δŽ
  XX Q
                                                                                                                                                                                                                                                               ď
                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                      Ø
                                                                                                                                                                                                                                                                                                                                                                                                                            음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ω
                                                                                                                                             ŏ
                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                          2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present sequence is human estrogen-inducible LIV-1-164647 protein. LIV-1 is overexpressed in tumour tissues such as prostrate, colon, lung and breast. The LIV-1 DNA and polypeptide, and the monoclonal antibody are useful for treating cancer and inhibiting the proliferation of tumour cells in mammals, e.g. breast, lung, prostate, colon, overy, uterus, kidney, gastric or salivary carcinoma, or other tumour cell types expressing the LIV-1-164647 protein. In particular, the mammal is a human. The LIV-1 DNA and polypeptide may also be used in screening assays for drug candidates.
                                                                                 540
                                                                                                                                                               900
                                                                                                                                                                                                     009
                                                                                                                                                                                                                                              999
                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                  720
  TWKGLTALGGLYFWFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTN 480
                     inhibiting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human, LIV-1-164647; cytostatic; estrogen-inducible gene; tumour; cancer; breast; lung; prostate; colon; ovary; uterus; kidney; gastric; salivary gland; carcinoma; drug screening; therapy.
                                                                                                                                                               HSHFHDTLGQSDDLIHHHHDYHHILLHHHHQNHHPHSHSQRYSREELKDAGVATLAWMVI
                                                                                                                                                                                    NALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVDMVPEMLHNDASDHGCS
                                                                                                                                                                                                                                                                                                                                                     New LIV-1 DNA and amino acids, useful for treating cancer or inhibitir the proliferation of tumor cells in mammals, e.g. breast, lung, prostate, colon, ovary, uterus, kidney, gastric or salivary carcinoma
                                                                                 EEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKC
                                                                                                         EEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKC
                                                                                                                                                                                                                                              MGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   De Sauvage F;
                                                                                                                                                                                                                                                                                                                                                                                                             RWGYFFLQNAGMLLGFGIMLLISIFEHKIVFRINF 755
                                                                                                                                                                                                                                                                                                                                                                                                                                   Hongo JS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       À.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Smith V,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 20; Fig 2B; 150pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAE07206 standard; Protein; 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0177951.
2000US-0195761.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25-JAN-2001; 2001WO-US02622.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human LIV-1-164647 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Goddard A, Gurney AL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-502628/55.
N-PSDB; AAD13480.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200155178-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25-JAN-2000;
10-APR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-AUG-2001.
121
                                        121
                                                                               481
                                                                                                                      481
                                                                                                                                                               541
                                                                                                                                                                                                     541
                                                                                                                                                                                                                                              501
                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                  199
                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAE07206;
                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAE07206

IID AAE07206

IID AAE07206

XX AAE0

XX AAE0

XX E AAE0

XX E Bunna

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
```

```
NALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVDMVPEMLHNDASDHGCS 720
                                                                                           TWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTN 480
                                                                                                           481 EEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKC 540
                                                                                                                                                                                                                                                      MGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLY 660
LVALAVGTLSGDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDS
                                                                                                                                                                                                   HSHFHDTLGOSDDLIHHHHDYHHILHHHHONHHPHSHSORYSREELKDAGVATLAWWYI
                                                                                                                                                EEKVDIDDRIEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of
control
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Breast cancer diagnosis or treatment by comparing the level expression of a marker in a patient sample with that in the non-breast cancer sample -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  တ်
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kamatkar S
Meyers RE,
Mills GB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Breast cancer associated protein sequence SEQ ID NO:264.
                                                                                                                                                                                                                                                                                                                                                                          RWGYFFLQNAGMLLGFGIMLLISIFEHKIVFRINF 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zhao X, 1
Sahin A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; breast cancer; cytostatic; gene therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hoersh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gannavarapu M, Glatt K,
', Myer V, Wang Y, Xu Y,
GN, Pusztai L, Meric F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; SEQ ID 264; 128pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ŗ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABR47514 standard; Protein; 749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2001US-299887P.
2001US-301572P.
2001US-306501P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2001US-325002P.
2002US-362585P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (MILL-) MILLENIUM PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21-JUN-2002; 2002WO-US19669.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2002US-380391P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hortobagyi GN, Pusztai L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2003-210381/20.
N-PSDB; ACC50210.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO2003004989-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-JUN-2001; 2
27-JUN-2001; 2
18-JUL-2001; 2
25-SEP-2001; 2
05-MAR-2002; 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14-MAY-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16-JAN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lillie J,
                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABR47514;
                                                                                                                                               481
                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                     721
                                      361
                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Monahan
                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 8
                                                                                                                                                                        쉽
                                                                                                                                                                                                                           엄
                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                       δŽ
                                                                 g
                                                                                          δŽ
                                                                                                                 셤
                                                                                                                                           Qγ
                                                                                                                                                                                                   Qγ
                                                                                                                                                                                                                                                      Q \underline{\gamma}
                                                                                                                                                                                                                                                                                                         QΫ
                                                                                                                                                                                                                                                                                                                                                            QΫ
                                                                                                                                                                                                                                                                                                                                                                                 The invention comprises a method of detecting a breast cancer-associated transcript in a cell from a patient. The method of the invention involves contacting a biological sample from the patient with a nucleotide that hybridises to one of the 69 breast cancer-associated gene sequences shown in the specification. The method of the invention is useful in the alganosis or prognosis of breast cancer, and for detecting genes that are up or down-regulated in breast cancer cells. Genes identified by the method of the invention can be used in diagnostic purposes and also as targets for screening for therapeutic compounds that modulate breast cancer (e.g. hormones or antibodies). Identification of genes that are over or under expressed in breast cancer can additionally provide high-resolution, high-sensitivity datasets which can be used in the areas of diagnostics, therapeutics, drug development, pharmacogenetics, protein structure and biosensor development, hammacogenetics, protein secondard agence of the invention encoded by the 69 breast cancer-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PYRYGENNSL, SVEGFRKLLQNIGIDKIKRIHIHHDHDHHSDHEHHSDHERHSDHEHHSDH 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRRNVKD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    09
                                                                                                                                                                                                                                                                                           Detecting a breast cancer-associated transcript in a patient's cell, useful for diagnosing breast cancer, comprises contacting a biological sample with a polynucleotide that selectively hybridizes with breast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NESVSEPRKGFMY SRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MARKLSVILLITFALSVTNPLHELKAAAFPQTTEKISPNWESGINVDLAISTRQYHLQQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 755;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 4011; DB
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 360; 414pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       associated genes of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                      2001US-265965P.
2001US-265928P.
2001US-282698P.
2001US-28269472.
2001US-288590P.
2001US-298443P.
                                                                                                                                                                                                  (EOSB-) EOS BIOTECHNOLOGY INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99.7%;
                                                                                2002WO-US02242
                                                                                                                                                                                                                             Gish KC, Afar D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  753; Conservative
                                                                                                                                                                                                                                                                                                                                     nucleic acids
                                                                                                                                                                                                                                                      2002-583738/62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                755 AA;
                                                                                                                                                                                                                                                                     N-PSDB; ABT07707
                          WO200259377-A2
                                                                                                        24-JAN-2001; 2
02-FEB-2001; 2
09-APR-2001; 2
                                                                                                                                               09-APR-2001;
04-MAY-2001;
                                                                               24-JAN-2002;
                                                                                                                                                                         29-MAY-2001;
 Unidentified.
                                                    01-AUG-2002
                                                                                                                                                                                                                             Mack DH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best_Loca
Matches
 δă
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δă
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QΥ
```

```
The present invention describes a method for assessing whether a patient is afflicted with breast cancer. The method comprises comparing the level of expression of a marker (gene/polypeptide see ACC50076 to ACC5034 and ABR47386 to ABR47632) in a patient sample and the normal level of expression of the marker in a control non-brast cancer sample, where a significant increase in the level of expression of the marker in the patient sample and the normal level of expression of the patient is a significant increase in the level of expression of the marker in the patient sample and the normal level is an indication that the patient is afflicted with breast cancer. The breast cancer associated sequences from the present invention have cytostatic activities and can be used in gene therapy. The method is useful for diagnosing and treating breast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 FYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHHDHDHHHSDHEHHSDHERHSDHEHHSDH 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRRNVKD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LVALAVGTLSGDAFLHLLPHSHASHHHSHSHEPPAMEMKRGPLFSHLSSQNIEESAYFDS 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTN 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     415 TWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTN 474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKC 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVDMVPEMLHNDASDHGCS 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               714
                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                            N.B. The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HSHFHDTLGQSDDLIHHHHDYHHILHHHHQNHHPHSHSQRYSREELKDAGVATLAWWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFPKFLLSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HSHFHDTLGQSDDLIHHHHDYHHILHHHRQNHFPSHSQRYSRELKDAGVATLAWWI
                                                                                                                                                                                                                                                                                                                                                                                              1 MARKLSVILILTFALSVTNPLHELKAAAFPQTTEKISPNWESGINVDLAISTRQYHLQQL
                                                                                                                                                                                                                                                                                                                                                                                                                              1 MARKLSVILILTFALSVTNPLHELKAAAFPQTTEKISPNWESGINVDLAISTRQYHLQQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT
                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                          9;
                                                                                                                                                                                                                                                                                                                    Length 749;
                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                    Score 3969; DB 24;
Pred. No. 0;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HILLING HILL HILL HILL STEER TVERINF 749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RWGYFFLQNAGMLLGFGIMLLISIFEHKIVFRINF 755
                                                                                                                                                                                                                                                ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                      98.68;
                                                                                                                                                                                                                                                                                                                                                          749; Conservative
                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                    749 AA;
                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                       Best_Local 9
Matches 749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                               cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q\overline{Q}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δĀ
                                                                                                                                                                                                                                                                                                                                                                                              δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δŽ
```

```
The invention describes the a polypeptide comprising one or more consensus regions of proteins of LIV-1 family or its functional homologue. The polypeptide is useful in the preparation of a medicament for the treating a disease e.g. those involving disorders of aince homeostasis, in gene therapy and for modifying apoptosis in vitro or in vivo no contact with cells. Diseases involving defects in zinc homeostasis include cancer, neurodegenerative disorders and apoptotic disorders. Recombinant proteins of the LIV-1 family (an oestrogen-regulated gene) are useful for diagnosing a zinc construction in a subject which involves contacting a sample from the subject with the recombinant protein and measuring the binding of antibody to the sample. The antibody is also useful for treating a zinc homeostasis-related condition. This sequence is a member of the LIV-1 family (a gene regulated by oestrogen levels) and is useful for creating recombinant proteins for diagnosing of the LIV-1 family (a gene regulated by oestrogen levels) and is useful for creating recombinant proteins for diagnosing and the companion of the compan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FYRYGENNSLSVEGFRKILLQNIGIDKIKRIHIHHDHDHHSDHEHHSDHERHSDH 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FYRYGENNSLSVEGFRKLLQNIGIDENTRIHIHDHDHHSDEBHRSDHERHSDH 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LIV-1; oestrogen; cytostatic; neuroprotective; zinc homeostasis; gene therapy; apoptosis modulator; cancer; neurodegenerative disorder; apoptotic disorder; zinc-homeostasis related disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Use of a polypeptide comprising one or more consensus regions of proteins of LIV-1 family for treating disorders of zinc homeostasis such as breast cancer, neurodegenerative disorders, and for modifying
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MARKLSVILILIFFALSVTNPLHELKAAAFPQTTEKISPNWESGINVDLAISTRQYHLQQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        zinc-homeostasis related conditions, described in the method of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 746;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                               Oestrogen-regulated LIV-1 family protein U41060_Hs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 3948; Di
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RI;
                                                  AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nicholson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 1; Figure 1; 67pp; English.
                                               AAU74631 standard; Protein; 746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                98.1%; silarity 99.2%; EConservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (UYCA-) UNIV COLLEGE CARDIFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13-JUN-2000; 2000GB-0014411.
14-JUN-2000; 2000GB-0014493.
05-JUL-2000; 2000US-216349P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-JUN-2001; 2001WO-GB02597
                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Morgan HE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2002-106465/14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
les 745; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     746 AA;
                                                                                                                                                                                                                                                                                                                                                                                                       WO200196372-A2.
                                                                                                                                                                                                                                                                                                                                                          Homo sapiens.
                                                                                                                                                  09-APR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-DEC-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              raylor KM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              apoptosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                  AAU74631;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Loca
Matches
                          AAU7463.
RESULT
                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
```

g

```
742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RWGYFFLONAGMLIGFGIMLL 736
                                  233pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RWGYFFLONAGMLLGFGIMLLI
                                    Disclosure; Page 144-146;
                                                                                                                         Conservative
                                                                                                                  Similarity
                                                                                               752 AA;
                                                                                  related proteins.
  N-PSDB; ABT31919.
                                                                                                                Local Simi.
                                                                                                                                                                61
                                                                                                                                                                                           121
                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                  175
                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                             235
                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                      295
                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                 355
                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                           415
                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                      655
                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 715
                                                                                                           Query Match
                                                                                                                   Best Loca
Matches
  δŽ
                                                                                                                                                  g
                                                                                                                                                               Ω
                                                                                                                                                                           qq
                                                                                                                                                                                         QY
                                                                                                                                                                                                     g
                                                                                                                                                                                                                   ΩŽ
                                                                                                                                                                                                                                QQ
                                                                                                                                                                                                                                              QΫ
                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                         δŽ
                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                  δŽ
                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                              ^{\circ}
                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                       δy
                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                   \delta \Delta
                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                             Q\underline{\gamma}
                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                        \delta V
                            240
                                                                                360
                                                                                                          420
                                                                                                                                      480
                                                                                                                                                                540
                                                      300
                                                                                                                                                                                         900
                                                                                                                                                                                                                    099
                                                                                                                                                                                                                                              720
              174
                                         234
                                                                   294
                                                                                             354
                                                                                                                        414
                                                                                                                                                  474
                                                                                                                                                                            534
                                                                                                                                                                                                       594
                                                                                                                                                                                                                                 654
                                                                                                                                                                                                                                                            714
        HSHFHDTLGQSDDLIHHHHDYHHILHHHHQNHHPHSHSQRYSREELKDAGVATLAWMVI
                                                                                                                                                                                                EHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRRNVKD
                                                     NESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDA
                                                                               RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF
                                                                                      LVALAVGTLSGDAFLHLLPHSHASHHHSHSEPPAMEMKRGPLFSHLSSQNIEESAYFDS
                                                                                                                                   TWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTN
                                                                                                                                                              EEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNETVPRGCKNKC
                                                                                                                                                                                                                   MGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLY
                                                                                                                                                                                                                                             NALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVDMVPEMLHNDASDHGCS
                          SVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT
                                                                                                                                                                                                                                                                                                                                                             Human breast cancer / ovarian cancer related protein #26
                                                                                                                                                                                                                                                                                                                                                                           Human; cytostatic; breast cancer; ovarian cancer
                                                                                                                                                                                                                                                                               RWGYFFLQNAGMLLGFGIMLLISIFEHKIVF 751
                                                                                                                                                                                                                                                                                                                       AA.
                                                                                                                                                                                                                                                                                                                     ABJ37050 standard; Protein; 752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (MILL-) MILLENNIUM PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                             21-JUN-2001; 2001US-300159P.
27-JUN-2001; 2001US-301351P.
                                                                                                                                                                                                                                                                                                                                                                                                                               21-JUN-2002; 2002WO-US19773.
                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2003-267848/26
                                                                                                                                                                                                                                                                                                                                                                                                     WO2003000012-A2
                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                01-MAY-2003
                                                                                                                                                                                                                                                                                                                                                                                                                  03-JAN-2003
                                                                                                                                                                                       541
                                                                                                                      355
                                                                                                                                                415
                                                     241
                                                                                           295
                                                                                                                                                              481
121
                          181
                                                                 235
                                                                               301
                                                                                                         361
                                                                                                                                                                           475
                                                                                                                                                                                                     535
                                                                                                                                                                                                                                                          655
                                                                                                                                   421
                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                595
                                                                                                                                                                                                                                             199
                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                   715
                                                                                                                                                                                                                                                                                                                                   ABJ37050;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Veiby OP;
                                                                                                                                                                                                                                                                                                         RESULT
            셤
                                      셤
                                                    δ
                                                                 g
                                                                                          g
                                                                                                                     d
ð
                         ğ
                                                                               δλ
                                                                                                        δ
                                                                                                                                   à
                                                                                                                                              q
                                                                                                                                                              ö
                                                                                                                                                                          q
                                                                                                                                                                                       δŽ
                                                                                                                                                                                                     a
                                                                                                                                                                                                                  QΫ
                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                             δά
                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                       ğ
                                                                                                                                                                                                                                                                                   g
```

```
The invention comprises a method for assessing whether a patient is afflicted with breast cancer or ovarian cancer. The method involves the use of specific DNA markers. The method of the invention is useful in the detection and treatment of ovarian and breast cancer. Amino acid sequences ABJ37025 - ABJ37080 represent human breast/ovarian cancer-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHHDHDHHSDHEHHSDHERHSDHEHHSDH 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRRNVKD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LVALAVGTLSGDAFLHLLPHSHASHHHSHSHFEPAMEMKRGPLFSHLSSQNIEESAYFDS 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTN 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKC 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSHFHDTLGQSDDLIHHHHDYHHILHHHHQNHHPHSHSQRYSREELKDAGVATLAWMVI 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF
                                                                                                                                                                                                                                                                                                                                                                                                                           1 MARKLSVILILIFFALSVINPLHELKAAAFPQTTEKISPNWESGINVDLAISTRQYHLQQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
  an individual, involves
                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                  24; Length 752;
                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                  DB
  the presence of breast cancer in
                                                                                                                                                                                                                                                                                                                                                                                 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                97.1%; Score 3906; 99.2%; Pred. No. 0;
                                                                       English.
Determining the presence of breast can
using specific polynucleotide markers
```

```
540
                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                     654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NALSAMIAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVDMVPEMLHNDASDHGCS 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           414
                                                                                                                                                                                                                                                                                                                   TWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTN 480
                                                                                                                                                                                                                                                                                                                                                                                                                                             541 HSHFHDTLGQSDDLIHHHHDYHHILHHHHQNHHPHSHSQRYSREELKDAGVATLAWWVI 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601 MGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLY 660
EHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRRNVKD 180
                                                                                                                         300
                                                                                                                                            RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF 360
                                                                                                                                                                                                                       354
                                                                            SVSASEVTSTVYNTVSEGTHF1.ETIETPRPGKLFPRDVSSSTPPSVTSKSRVSRLAGRKT
                                                                                                                                                                                                                                                                        NESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDA
                                                                                                                                                                                                           LVALAVGTLSGDAFLHLLPHSHASHHSHSHERPAMEMKRGPLFSHLSSQNIBESAYFDS
                                                                                                                                                                                                                                                                                                                                                                                 EEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKC
                                                               SVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Oestrogen regulated gene; pLIV1 gene partial sequence; breast cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          metastatic risk assessment; hormone therapy responsiveness; tumour oestrogen receptor expression; lymph node involvement.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein encoded by pLIV1 gene partial sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Manning DL, Nicholson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (UYWA-) UNIV WALES COLLEGE OF MEDICINE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RWGYFFLQNAGMLLGFGIMLLI 736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RWGYFFLONAGMLLGFGIMLLI 742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAW34528 standard; Protein; 431 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          94US-0311023,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      94US-0311023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Green CD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22-SEP-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        32-SEP-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24-MAR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02-DEC-1997.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JS5693465-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gee JMW,
                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                 475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          561
   121
                               121
                                                               181
                                                                                           175
                                                                                                                             241
                                                                                                                                                                                         301
                                                                                                                                                                                                                       295
                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                       355
                                                                                                                                                                                                                                                                                                                                                    415
                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAW34528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q\underline{\gamma}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ζ
                            Dp
                                                            ΩŽ
                                                                                        g
                                                                                                                             δy
                                                                                                                                                    qq
                                                                                                                                                                                         Ωÿ
                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                        ŏ
                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                      δŽ
                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHHDHDHHSDHEHHSDHERHSDHEHHSDH 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present sequence is human estrogen-inducible protein (LIV-1). LIV-1 is overexpressed in tumour tissues such as prostrate, colon, lung and breast. The LIV-1 DNA and polypeptide, and the monoclonal antibody are useful for treating cancer and inhibiting the proliferation of tumour cells in mammals, e.g. breast, lung, prostate, colon, ovary, uterus, kidney, gastric or salivary carcinoma, or other tumour cell types expressing the LIV-164647 protein. In particular, the mammal is a human. The LIV-1 DNA and polypeptide may also be used in screening
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MARKLSVILILIFALSVINPLHELKAAAFPQTIEKISPNWESGINVDLAISTRQYHLQQL 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New LIV-1 DNA and amino acids, useful for treating cancer or inhibiting
the proliferation of tumor cells in mammals, e.g. breast, lung,
prostate, colon, ovary, uterus, kidney, gastric or salivary carcinoma
                                                                                                                                                                        cancer; breast; lung; prostate; colon; ovary; uterus; kidhey; gastric; salivary gland; carcinoma; drug screening
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                             Human; LIV-1; cytostatic; estrogen-inducible gene; tumour; therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97.0%; Score 3902; DB 22; Length 752; 99.2%; Pred. No. 0; Live 0; Mismatches 0; Indels 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             De Sauvage F;
                                                                                                                                                                                                                                                                                                                                                    /label= Extracellular_domain 318..367
/label= Transmembrane_domain
                                                                                                                                                                                                                                                                                                                      'label= Mature_LIV_l_protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hongo JS,
                                                                                                                                                                                                                                                                         l..20
/label= Signal_peptide
                                                                                                                                                                                                                                                       Location/Qualifiers
                                   AAE07205 standard; Protein; 752 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 2; Fig 1B; 150pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Smith V,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000US-0177951.
2000US-0195761.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25-JAN-2001; 2001WO-US02622.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              assays for drug candidates
                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 99.28
Matches 736; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Goddard A, Gurney AL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (GETH ) GENENTECH INC
                                                                                                                             Human LIV-1 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-502628/55.
N-PSDB; AAD13479.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                752 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                    WO200155178-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-JAN-2000;
10-APR-2000;
                                                                                                                                                                                                                              Homo sapiens
                                                                                               06-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                 AAE07205;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                        Peptide
                                                                                                                                                                                                                                                                                                         Protein
                                                                                                                                                                                                                                                                                                                                         Domain
                                                                                                                                                                                                                                                                                                                                                                       Domain
   RESULT 11
                     AAE07205
```

g

8 Q

δ

```
61 SHSHEEPAMEMKRGPLFSHLSSQNIEBSAYFDSTWRGLTALGGLYFWFLVEHVLTLIKQF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 KDKKKKNOKKPENDDDVEIKKOLSKYESQLSTNEEKVDTDDRTEGYLRADSQEPSHFDDQ 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            508 QPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQSDDLIHHHHDYHHILHH 567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 GFIAISIISFLSLIGVILVPLMNRVFFKFLLSFLVALAVGTLSRDAFLHLLPHSHASHHH 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    328 GFIAISIISFLSLLGVILVPLMNRVFFKFLLSFLVALAVGTLSGDAFLHLLPHSHASHHH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              388 SHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYFMFLVEHVLTLIKQF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           448 KDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEKVDTDDRTEGYLRADSQEPSHFDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HHHQNHHPHSHSQRYSREELKDAGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The polypeptide (AAR98004) encoded by a partial cDNA clone (AAR9319) corresponding to the human pirvl gene contains 3 peptide arcticos, 1003, 1004 and 1005, that were used to raise polyclonal antibodies in rabbits. Peptides 1004 and 1005 were most immunogenic, generating ELISA-positive sera at dilutions of 1/200000. Cross-reactivity studies using the 3 peptides identified 7 positive specific sera in tumour samples from 74 patients with primary breast cancer. The pirvl polypeptide was expressed in the cytosol of cestrogen receptor-positive epithelial cells of breast tumours. Its presence can be used to predict the propensity for metastatic spread or the responsiveness of a breast tumour to endocrine treatment. Its inactivation may be used as a means of

    useful for

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 431;
                                  11,
                                                                                                                                                                                                                      디
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                           /label= 1105
/note= "immunogenic peptide 1005, claim
page 19"
                                    claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Oestrogen-regulated pLIV1 gene and deduced polypeptide predicting the propensity for metastatic spread or the responsiveness to endocrine treatment of breast tumour
                               /note= "immunogenic peptide 1003,
                                                                                                                       /note= "immunogenic peptide 1004,
page 19"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 2188; DB 17;
Pred. No. 4.8e-197;
0; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Green CD, Manning DL, Nicholson RI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (UYWA-) UNIV WALES COLLEGE OF MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                treating breast cancer and metastasis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 1; Page 14-16; 27pp; English.
                                                          page 19"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             54.4%;
99.3%;
            /label= 1003
                                                                                                   /label= 1004
                                                                                                                                                                                                                                                                                                                                                                                 94CA-2132500.
                                                                                                                                                                                                                                                                                                                                                                                                                                94CA-2132500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1996-268987/28.
N-PSDB; AAT33219, AAT33220.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 54.47
Best Local Similarity 99.39
Matches 412; Conservative
                                                                             252..265
                                                                                                                                                                       418..431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 431 AA;
                                                                                                                                                                                                                                                                                                                                                                                 20-SEP-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                20-SEP-1994;
                                                                                                                                                                                                                                                                                          CA2132500-A
                                                                                                                                                                                                                                                                                                                                        21-MAR-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gee JM,
                                                                                Peptide
                                                                                                                                                                          Peptide
            ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                 This sequence is encoded by a partial sequence of the pLIVI gene. This protein sequence is an oestrogen regulated gene associated with breast cancer. This sequence can be used in the method of the invention. The method is for determining the risk of metastasis of a female breast tumour and predicting the responsiveness of a female breast tumour to hormone treatment comprise determining if a tissue sample from the tumour expresses a polypeptide comprising at least 14 continuous amino acids of the protein encoded by this sequence. The method is useful for determining the risk of metastasis of a female breast tumour and to predict the responsive of the female breast tumour to hormone treatment. PLIVI expression is highly predictive of tumour oestrogen receptor expression and lymph node involvement.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TSVAVFCHELPHELGDFAVLLKAGMTVKQAVLYNALSAMLAYLGMATGIFIGHYAENVSM 687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 SHSHEEPPAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYFMFLVEHVLTLIKOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         328 GFIAISIISFLSILGVILVPIMNRVFFKFLLSFLVALAVGTLSGDAFLHLLPHSHASHHH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYFWFLVEHVLTLIKQF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEKVDTDDRTEGYLRADSQEPSHFDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQSDDLIHBHHDYHILHH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HHHONHHPHSHSQRYSREELKDAGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                         went of metastatic risk or oestrogen responsive-ness in breast - by detecting expression of pLIV1 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WIFALTAGLEMYVALVDMVPEMLHNDASDHGCSRWGYFFLQNAGMLLGFGIMLLI 742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Oestrogen-regulated gene; pLIV1; breast cancer; tumour; diagnosis; marker; metastasis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           54.8%; Score 2205; DB 19; Length 431; 100.0%; Pred. No. 1.2e-198; ive 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Oestrogen-regulated pLIV1 gene-encoded protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
125,.138
                                                                                                                                          Claim 1; Column 5-10; 11pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAR98004 standard; Protein; 431 AA.
                        N-PSDB; AAT99070, AAT99071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
1998-031740/03.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
les 415; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               431 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16-0CT-1996
                                                                           Assessment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAR98004:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Key
Peptide
                                                                                                   cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
       $X \cdot \cd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QV
```

ó

Gaps

447

```
241 NESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDA 300
                                                                                                  RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF 360
                                                                                                                 EEKVDTDDRIEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNETVPRGCKNKC 540
                                                                                                                                                               LVALAVGTLSGDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDS 420
                                                                                                                                                                                                                                TWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTN 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; secreted protein; proliferative disorder; cancer; tumour; foetal abnormality; developmental abnormality; haematopoietic disorder; immune system disorder; AIDS; autoimmune disease; rheumatoid arthritis;
   SVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nucleic acid molecules encoding human secreted proteins, used in
preventing, treating or ameliorating a disorder, e.g. Alzheimer's and
Parkinson's diseases and cancers -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        inflammation; allergy; neurological disorder; Alzheimer's disease; Parkinson's disease; cognitive disorder; schizophrenia, asthma; skin disorder; psoriasis; sepsis; diabetes; athercsclerosis; cardicovascular disorder; angiogenic disorder; kidney disorder; angiogenic disorder; kidney disorder; endocrine disorder; pregnancy-related disorder; endocrine disorder; infection; wound healing; vulnerary; cell culture; chemotaxis; food additive;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Komatsoulis GA, Rosen
Olsen HS, Lafleur DW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human gene 4 encoded secreted protein HDPFY41, SEQ ID NO:86.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KP, Birse CE, Fiscella M, Young PE, Ebner R, Duan DR, thi Y, Wei Y, Florence KA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAB87345 standard; Protein; 831 AA.
                                                                                                                                                                                                                                                                                                                                                              HSHFHDTLGQSDDLIHHHHDY 561
                                                                                                                                                                                                                                                                                                                                                                                HSHFHDTLGQSDDLIHHHDF 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        binding partner identification.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (HUMA-) HUMAN GENOME SCI INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99US-0152315.
99US-0152317.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    31-AUG-2000; 2000WO-US24008.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2001-203081/20.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Soppet DR, Young
Moore PA, Shi Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Baker KP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; AAF91861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200118022-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-MAR-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     03-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAB87345;
                                                                                                  301
                                                                                                                                                               361
                                                                                                                                                                                                                                                                                               481
                                                                  61
                                                                                                                               121
                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAB87345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                               q
                                                                                                                                                               δŏ
                                                                                                                                                                                              g
                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                             \tilde{Q}
                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                            δŏ
                                                              g
                                                                                                  ΩŽ
                                                                                                                                                                                                                                20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                           Human; prostate cancer; prostate cancer antigen; detection; diagnosis; neuroprotective; cytostatic; cardioactive; immunomodulatory; muscular; vulnerary; gastrointestinal; nephrotropic; antiinfective; gynaecological; antibacterial; gene therapy; neural; immune; reproductive; renal; gastrointestinal; pulmonary; cardiovascular; proliferative disorder; wound; infectious disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cardioactive, immunomodulatory, muscular, vulnerary, gastrointestinal, nephrotropic, antiinfective, gynaecological and antibacterial activities, and can be used in gene therapy. The prostate cancer antigen polynucleotides may be used for detection of prostate cancer, chromosome identification, as chromosome markers, and for numerous other diagnostic or research purposes. The prostate cancer antigens may be used to treat disorders such as neural, immune, muscular, reproductive, agastrointestinal, pulmonary, cardiovascular, reproductive, disorders, wounds, and infectious diseases. AAP16506 to AAP16514 to AAB53303 represent sequences used in the exemplification of the present
                  TSVAVFCHELPHELGDFAVLLKAGMTVKQAVLYNALSAMLAYLGMATGIFIGHYAENVSM 687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAF15566 to AAF16505 encode the human prostate cancer associated proteins, called prostate cancer antigens, given in AAB56363 to AAB57302. The prostate cancer antigens can have neuroprotective, cytostatic,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                 Prostate cancer associated gene sequences, referred to as prostate cancer antigens, useful for treatment, prevention, and diagnosis of
                                                                  WIFALTAGLFMYVALVDMVPEMLHNDASDHGCSRWGYFFLQNAGMLLGFGIMLLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                               prostate cancer antigen protein sequence SEQ ID NO:1531.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 21; Length 397;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  49.0%; Score 1972; DB 21; 98.7%; Pred. No. 9.5e-177;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. 9.5e
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 11; Page 1974-1975; 2338pp; English.
                                                                                                                                                                                Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     disorders such as prostate cancer
                                                                                                                                                                             AAB56953 standard; Protein; 397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (HUMA-) HUMAN GENOME SCI INC.
(ROSE/) ROSEN C A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        08-MAR-2000; 2000WO-US05988.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99US-0124270.
                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 98.77
Matches 376; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rosen CA, Ruben SM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2000-587513/55.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  397 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB; AAF16156
                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO200055174-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                             13-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21-SEP-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                           AAB56953;
                                30I
                                                                688
 628
                                                                                               361
                                                                                                                                                                                                                                                                               Human
                                                                                                                                                RESULT 1
                                                                                                                                                                               Qy
 ď
                              qq
                                                                δŏ
                                                                                               ద
```

CA;

```
Claim 11; Page 533-535; 607pp; English.

ARP9185B-AAF91929 represent CDNAs corresponding to 52 human secreted protein genes, and AAB87342-AAB87413 represent the proteins they encode. CC protein genes, and AAB87342-AAB87413 represent the protein fragments. The genes cand their corresponding secreted proteins are useful for preventing, treating or ameliorating medical conditions. e.g., by protein or gene cherapy. Pathological conditions and be diagnosed by determining the amount of the new protein in a sample or by determining the presence of amount of the new protein in a sample or by determining the presence of amount of the new protein in a sample or by determining the presence of conditions and bear of the cand include developing products for the diagnosis or treatment of proliferative disorders, cancer, tumours, foetal and developmental conditions, and include developing products for the diagnosis or treatment of proliferative disorders, cancer, tumours, foetal and developmental conditions's diseases (e.g., rheumatoid arthritis), inflammation, allergies, neurological disorders (e.g., Alzheimer's disease, cardiovascular disorders, disorders, schizophrenia, asthma, ALDS, autoimmune disease), cognitive disorders, diabetes, atherosclerosis, skin disorders (e.g., psoriasis), sepsis, diabetes, atherosclerosis, cardiovascular disorders, pregnancy-related disorders, and infections. The proteins can also be used to aid wound healing and epithelial cell proliferation, to prevent skin aging due to culture of primary tissues, to regenerate tissues, to identify their culture of primary tissues, to regenerate tissues, to identify their cognate ligands or binding partners, and in chemotaxis, and can be used in alleviating symptoms associated with the disorders mentioned above, and indianoschent assay (ELISA). The present sequence represents a human and cimmunoscapent assay eg., radioimmunoscapents a human and provention.
```

SQ Sequence 831 AA;
Query Match 33.2%; Score 1337; DB 22; Length 831;
Best Local Similarity 35.5%; Pred. No. 2e-116;
Matches 317; Conservative 131; Mismatches 241; Indels 204; Gaps

101 --- SDHЕННЅОНЕНКОН 126 181 HERLHHHLDHNNTHHFHNDSITPSERGEPSNEPSTETNKTQEQSDVKLPKGKRKKKGRKS 240 201 FLE-----TIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKINESVSEPRK 249 327 DL----NEDDHHHECLNVTQLLKYYGHGANSPISTDLFTYLCPALLYQIDSRLCIEHFDK 382 310 KKABIPPKTYSL-----QIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF 360 LVALAVGTLSGDAFLHLIPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDS 420 148 DHDSD--SSGKDPRNSQGK----GAHRPEHASGRRNVKDSVSASEVTSTVYNTVSEGTH 200 241 NENSEVITPGFPPNHDQGEQYEHNRVHKPDR-------VHNPGHSHVH 281 250 GFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDARSCLIHTSE 309 09 1 MARKLSVILILIFFALSVINPLHELKAAAFPQTTEK-----ISPNWESGINVDLAISTR 53 QYHLQQLFYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHHD---HDH--HSD-----282 LPERNGHDPGRGHQDLDPDNEGEL------RHTRKREAPHVKNNAIISLRK ---HEHHSDHERH----102 361 54 127 g δŏ δŽ a a ŏ g δ g $Q_{\overline{Y}}$ 셤 δ δŽ 셤 δ g 셤 ã

478	553	527	613	584	658	644	718	704	778		
421 TWKGLTALGGLYFWFLVEHVLTLIKQFKDKKKRNQKKPENDDDVEIKKQLSKYESQLS 478	495 VLKGLVALGGIYLLFIIEHCIRMFRHYKQQRGK-QKWFMKQNTEESTIGRKLSDHKLNNT 553	TNEEKVDTDDRIEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEV 527	LKP	YNEYVPRGCKNKCHSHFUDILGQSDDLIHHHHDYHHILIHHHQNHHPBSHSQRYSR 584	GPCHSG	585 EBLKDAGVATLAMMVINGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDF 644	659 SDLKETGIANIANMYINGDGIHNFSDGLAIGAAFSAGLTGGISTSIAVFCHELPHELGDF 718	645 AVILKAGMIVKQAVLYNALSAMLAYLGMATGIFIGHYABNVSMWIFALTAGLEMYVALVD 704		705 MYPEMLHNDASDHGCSRWGYFFLQNAGMLLGFGIMLLISIFFEHKIVFRINF 755	779 MLPEMLHGDGDNEEHGFCPVGQFILQNLGLLFGFAIMLVIALYEDIYFDIQF 831
421	495	479	554	528	614	585	629	645	719	705	779
QY	අු	QY	Db	Qy	Db	QY	qq	Qy	οğα	QY	QQ

Search completed: September 12, 2003, 22:14:03 Job time : 78 secs

```
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
```

OM protein - protein search, using sw model

September 12, 2003, 22:13:01 Run on:

1. Search time 40 Seconds (without alignments)
1815.184 Million cell updates/sec

US-09-642-034-5

4024 1 MARKLSVILIITFALSVTNP......FGIMLLISIFEHKIVFRINF 755 Perfect score: Sequence:

Scoring table:

BLOSUM62 Gapop 10.0 , Gapext 0.5

283308 seqs, 96168682 residues Searched:

283308 Total number of hits satisfying chosen parameters:

Minimum DB seq length; 0
Maximum DB seq length; 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR_76:* Database :

pirl:* pir2:* pir3:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Description	LIV-1 protein - hu	etical pro					MHC H-2K/t-w5-link	probable membrane		w	protein C14H10.1 [rical pr			ite a		hypothetical prote	0	qufA protein homol	trophozoite antige	~	DNA topoisomerase	hypothetical prote	histidine-rich pro	hypothetical prote				
SOMERALES	ID	G02273	T08684	T23089	T19585	T24835	T25420	149714	S49959	T39240	C96704	B89625	T19285	T45059	T18414	C44863	A44863	H71607	KGZQHL	H71107	D44863	C85838	\$35521	T29592	A54523	AH1865	н90992	T15544	9	A44971
	DB																												7	
	Length	752	529	515	360	586	404	436	346	453	450	338	362	735	3119	144	999	764	351	269	65	283	972	477	140	257	279	295	330	96
æ	Query Match	7.	ω.			9.5			•						4.5		4.3	4.2		4.1	4.1	•	•	•	•	•	٠	•	3.9	•
	Score	3902	616	393.5	391	381.5	376	325	299	271.5	250.5	208	208	194.5	180	178	_	168.5	168	166.5	163		161.5	o.	158	157	155	155		154.5
;	Result No.	П	7	е	4	ın	9	7	æ	on	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	22	56	27	28	29

	DNA-directed RNA p	adhesin homolog HI	qufA protein homol	probable integral	hypothetical prote	hypothetical prote	female-specific do	male-specific doub	hypothetical prote			probable Fe(II) tr	qufA protein - Mvx	cte	HRPII protein - ma
T16346	T28156	D64049	A69162	F81444	AC2680	A97462	A32372	B32372	T33100	T21558	T21559	T06385	839876	T52183	831781
~	~	7	Н	7	~	7	~	7	7	7	7	7		N	7
1225	2910	337	259	291	905	916	427	549	1510	1785	1929	348	254	355	327
8.6	3.8	3.8	3.8	3.7	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
154.5	154.5	154	152	147.5	146.5	146.5	146	146	146	146	146	145.5	145	143.5	143
30	7	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

JIJ 1 273	LIV-1 protein - human	C;Species: Homo sapiens (man)	C;Date: 21-Dec-1996 #sequence_revision 06-Jun-1997 #text change 05-Nov-1999	C, Accession: G02273	R; Green, C.; Gilhooly, E.M.; Walker, N.J.	submitted to the EMBL Data Library, November 1995	A; Reference number: H00961	A; Accession: G02273	A;Status: preliminary; translated from GB/EMBL/DDBJ	A; Molecule type: mRNA	A; Residues: 1-752 <gre></gre>	A; Cross-references: EMBL:U41060; NID:q1256000; PIDN:AAA96258.1; PID:q1256001	enetics:	A;Gene: LIV-1	
RESULT 1 G02273	LIV-1 pro	C; Species	C;Date: 2	C;Accessi	R;Green,	submitted	A;Referen	A;Accessi	A;Status:	A; Molecul	A; Residue	A; Cross-r	C; Genetics:	A; Gene: L	

Gaps 9 Length 752; Indels Score 3902; DB 2; Pred. No. 2.6e-277; 0; Mismatches 97.0%; Best Local Similarity 99.2 Matches 736; Conservative Query Match

61 FYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHDHDHHSDHEHHSDHERHSDHEHHSDH 120 121 EHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRRNVKD 180 241 NESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDA 300 09 09 RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF 360 LVALAVGTLSGDAFLHILPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDS 420 1 MARKLSVILILTFALSVTNPLHELKAAAFPQTTEKISPNWESGINVDLAISTRQYHLQQL 301 361 δŽ qq QΥ g 원 QΛ g ద Ω δ QΥ 셤 ŏ

421 TWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTN 480

음 Ω g

A; Experimental source: clone H13006 G; Genetics: A; Gene: CESP:H13006.5 A; Map position: X A; Introns: 118/1; 156/2; 182/2; 306/1 Query Match Best Local Similarity 20.4%; Pred. No. 6.8e-2 Matches 139; Conservative 64; Mismatches 1 Best Local Similarity 20.4%; Pred. No. 6.8e-2 Matches 139; Conservative 64; Mismatches 1 D	N. J. Gass Jabase, M. J. Gass Jone DKF Jone DKF SICAAFPO
150 179 210	15.3%; Score 616; DB 2; Length 529; 28.9%; Pred. No. 3.7e-37; vative 78; Mismatches 161; Indels 170; Gaps ILTFALSVTNDLHELKAAAPPQTTEKISPNWESGINVDLAISTR 5::
Query Match Best Local S Matches 139 91	RENA - CRANA - ST. ENED.: ALO50294 St. Efetal brain; clone DKF2p564L2123
Sashon: Tajoby us: preliminary; translate cule type: DNA dhes: 1-515 <wil. Freferences: EMBL:29942; rimental source: clone H13 tics: CESP:H13N06.5 position: X ons: 118/1; 156/2; 182/2;</wil. 	3.1 - human (fragment) ision 11-Jun-1999 #text_change 13-Aug-199 , H.W.; Gassenhuber, J.; Wiemann, S. : Database, May 1999
R.Lennard, N. submitted to the EMBL Data Library, October 1997 A.Reference number: Z19673 A.Accession: 723089	RWGYFFLQNAGMLLGFGIMLLI 742
123089 hypothetical protein H13N06.5 - Caenorhabditis elucySpecies: Caenorhabditis elegans C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999	NALSAMIAYLGNATGIFIGHYAENVSMWIFALTAGLFMYVALVDMVPEMLHNDASDHGCS 720
DD 495 VLKGLVALGGIYLLFIIEHCIRWFKHYKQONKKKK RESULT 3	MGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLX 660
421	HSHFHDTLGQSDDLTHHHHDYHHILHHHHQNHHPHSHSQRYSREELKDAGYATLAWAVI 600
361	EEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHDQEVYNEYVPRGCKNKC 540
Db 383 LLVEDINKDKNLVPEDEANIGASAWICGIISITVIS	

```
DB 2; Length 515;
-21;
153; Indels 327; Gaps 19;
                       AMEMKRGPLFSHLSSONIEESAYFDS 420
| | |:::|| :|:
| CHGHSHGHESNKFLEE---YDA 494
                                                                                                                                                                                                                                                                                                                               GSPDB:GN00028; CESP:H13N06.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SDHDHHSHHNHAASGKNKRKALCPDH 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEVISTVYNTVSEGIHFLETIETPR 209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7SEPRKGFMYSRNTNENPQECFNASK 269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ----GFLSFLN----- 204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .----WVYAI 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ALAVGILSGDAFLHLLP----- 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | | | |||||||||||||
AFGSGGLLGDAFLHLIPHATPAGDGH 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    UNIEESAYFDSTWKGLTALGGLYFMF 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -------GW----VLGGIIAFL 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SYVPRGCKNKCHSHFHDTLGQSDDLI 555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGMTVKQAVLYNALSAMLAYLGMATG 675
SLLSLLGVTLVPIINQGCFKFLLTF 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LIHTSEKKAEIPPKTYSLQIAWVGGF 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SKYESQLSTNEEKVDTDDRTEGYLR 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99 #text_change 18-Feb-2000
                                                                                                                                                                               egans
                                                                               2 455
                                                                                                        K 529
                                                                                                                                                                                                                                                                                         )BJ
```

셤 QΔ ΩŽ 쉽

```
13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -PPKTY 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            63 KFFYMLAALNFSISSKSIEIYTIKNASQLIHQVLHDAFLAADLGNYTEAVNLLDKPPAWQ 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      320 SLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSFLVALAVGTLSGDAFLHLLP 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       380 HSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYFMFLVEH 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         179 QAF ------HLTS-----HLTS-----FEHFEYHTKSLIILCALYAFFTVDR 210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    440 VLTLIKQFKDKKKKNQ------KKPENDDDVEIKKQLSKYESQLSTNEEK 483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VDTDDRTEGYLRADSQEPSH-----FDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRG 535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      257 VPSEPPTITRLOVPDLHNHHRFRRESELSDVERTEQOEKEMAELANDLEMALTNNVLART 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               317 FSTRRRVAVVSGGLDDIEFRSPKLSSHHTNGNTSQFLDVINNEFHRRMTPLSSRPGSPVT 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --NHHPHSHSQRYS-----REELKDAG--VATLAWMVIMGD 603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       604 GLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLYNAL 663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            664 SAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVDMVPEMLHND---ASDHGCS 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A,Accession: T24835
A,Status: preliminary; translated from GB/EMBL/DDBJ
A,Molecule type: DNA
A,Residues: 1-586 cMILD
A,Cross-references: EMBL:Z74042; PIDN:CAA98527.1; GSPDB:GN00023; CESP:T11F9.2
C,Genetics:
A,Gene: CESP:T11F9.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 211 MLQYILEFRRRRQTKRRIHASTIASLMNTPTTKRRDNGHN-------TTEETI 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Residues: 1-404 
    4.612-5.
    4.625.
    4.625.
    4.625.
    4.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
    6.625.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         hypothetical protein T28F3.3 - Caenorhabditis elegans C.Species: Caenorhabditis elegans C.Species: Caenorhabditis elegans C.Spate: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Sep-2000 C.Accession: T25420 **
R.Mortimore, B. S. Sanda C. Sanda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels 151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           536 CKNK----CHSHFHDTLGQSDDLIHHH----~HDYHHILHHHHQ----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 9.5%; Score 381.5; DB 2; Best Local Similarity 21.3%; Pred. No. 6.1e-20; Matches 120; Conservative 110; Mismatches 182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Accession: T25420
A; Status: preliminary; translated from GB/EMBL/DDBJ
A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       286 EFNYLCPALINQIDARSCLIHTSEKKAEL----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Map position: 5
A;Introns: 86/3; 123/1; 219/2; 316/3; 538/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SILVSILQACGILFGTTFMYFMS 579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RWGYFFLQNAGMLLGFGIMLLIS 743
      A; Reference number: Z19941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ДQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   :|| | :: |||: | | :: |||: | | |: | | |: | | |: | ||: | | |: | ||: | ||: | ||: | ||: | ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: ||: 
                                                                                                                                                                                                                                                     ----FF 492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           328 GFIAISIISFLSLLGVILVPLMNRVFFKFLLSFLVALAVGTLSGDAFLHLLP----HSH 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                383 ASHH-HSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTW-----KGLTALG----G 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             431 LYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEKVDTDDRT 490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQ 550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SDDLIHHHHDYHHILHHHHHQNHHPHSHSQRYSREELKD----AGVATLAWMVIMGDGL 605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVILKAGMTVKQAVLYNALSA 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  388 ASFIAGTTVGIVTMITVLVHEVPHEIGDFAILIQSGYSKKKAMLIQLVTA----LGALSG 443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hypothetical protein C30H6.2 - Caemorhabditis elegans
C.Species: Taboct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Sep-2000
C.Accession: T19585
B.Mortimore, B.
Submitted to the EMBL Data Library, October 1996
A.Rocession: T19585
A.Rocession:
                                                                                                                    IFIGHYAEN------VSMWIFALTAGLFMYVALVDMVPEMLHNDASDHGCSRWGYFFL 727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cypecies: Caenorhabditis elegans
Cybecies: Caenorhabditis elegans
Cybecies: 15-0ct-1999 #sequence_revision 15-0ct-1999 #text_change 15-0ct-1999
Cylecession: T24835
RyLennard, N.
Submitted to the EMBL Data Library, June 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      94;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Map position: 4 A;Introns: 43/2; 67/3; 111/3; 149/3; 231/3 C;Superfamily: Caenorhabditis elegans hypothetical protein C30H6.2
                                                                                                                                                                                                 444 CVISLFSADADALADAAASSWVLPFTAGGFIYIATVSVIPELLENSS----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 192 SKKERRNSVE------LEKRREQGGH----------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 9.7%; Score 391; DB 2; Length 360 Best Local Similarity 28.0%; Pred. No. 6.3e-21; Matches 112; Conservative 58; Mismatches 136; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          : || |: | :| | : LAAYAGLETALVAGRE-DEENETILLAITAGMELYVAWVDM 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   666 MLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVDM 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T24835
hypothetical protein T11F9.2 - Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                         728 QNA----GMLLGFGIMLLISIFE 746
                                                                                                                                                                                                                                                                                                                                                                                                                                                | :|:|:| | 493 QTVKEIFAIL#GIFLMYLIAIYE 515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Gene: CESP: C30H6.2
                                                                                                                          9/9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        244
                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ά
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δž
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
```

ğ g ð g δ

QY 265 FNASKLITSHGMGIQVPLNATEFNYLCPAIINQIDARSCLIHTSEKKABIPPKTYSLQIA : : Db 130TVTLMAY	QY 325 WVGGFIAISIISFLSLIGVILVPL-MNRVFFKFLLSFLVALAVGTLSGDAFLHLPPHS- 1 :	VA 363 QY 382 - HASHH HSHSHBEPAMEWRRPLESHLSSQNIEESAYFDSTWRGLTALGGLYFM 121 Db 203 PH - SHHAPEQPXHGHSHS GQGPILS VGIMVLSGIVAF	WK 423 QY 435 FLVEHVIALIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEKVDTDDRTEGYL	EX 483 QY 495 RADSQEPSHFDSQQPAVLEBEEVMIAHAHPQEVYNBYVPRGCKNKCHSHFHDTLGQSDDL	CY 555 IHHHDYHHILHHHQNHHPBSRSQRYSREELKDAGVATLAWMVIMGDGLANFSDGLAI	1	661 RESULT 302 S49959	717 N. Alternames: Fronthetical protein V13299.08c C. Species: Saccharomyces cerevisiae C. Pate: 28-May-1993 #sequence_revision 24-Feb-1995 #text_C. Accession: 849959	R;Skelton, J.; Churcher, C. submitted to the EMBL Data Library, December 1994 A;Reference number: \$49951	A, Molecule Type: DNA A, Residues: 1-346 <ske> A, Cross-references: EMBL: C, Genetics: A, Gene: MIPS: YILO23C A, Cross-references: SGD:SG A, Map position: 9L</ske>	C.Keywords: transmembrane protein F;6-22/Domain: transmembrane #status predicted <tm1> F;70-86/Domain: transmembrane #status predicted <tm2> F;101-117/Domain: transmembrane #status predicted <tm3> F;130-146/Domain: transmembrane #status predicted <tm4> F;327-343/Domain: transmembrane #status predicted <tm4></tm4></tm4></tm3></tm2></tm1>	Query Match 7.4%; Score 299; DB 2; Length 346; Best Local Similarity 23.1%; Pred. No. 3.2e-14; Matches 99; Conservative 51; Mismatches 115; Indels 164; Gaps	Qy 330 IAISIISFLSLLGVILVP-IMNRVFFKFLLSFLVALAVGTLSGDAFLHLPHSHP 24; :: :	145 71 VALLILYZIMSECLEVILE VEGENANDARSELLES DE	DD 124	
A;Gene: CESP:T28F3.3 A;Map position: 4 A;Introns: 108/3; 231/3; 297/3; 339/1; 388/3 C;Superfamily: Caenorhabditis elegans hypothetical protein C30H6.2	Query Match 9.3%; Score 376; DB 2; Length 404; Best Local Similarity 24.1%; Pred. No. 9.3e-20; Matches 108; Conservative 63; Mismatches 139; Indels 138; Gaps	306 HTSEKKABIPPRIYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSFLVA	364 LAVGTLSGDAFLHLIPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTWK	424 GLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEK : : :: 17	484 VDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSH 	544 FHDTLGQSDDLIHHHHDYHHILHHHHQNHHPHSHSQRYSRBELKDAGVATLAWMVIM : :	602 GDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLIKAGMTVKQAVLYN 1: : : : : : : : :	ALSAMLAYLGMATGIFIGHYAENVS :: :	718 GCSRWGYFFLQNAGMLLGFGIMLL 741 :: : : : : : : 361 NNLSKVAKWAQSLVHVLAICMGVGMMYI 388	IA9714 MHC H-2K/t-w5-linked ORF precursor - mouse C;Species: Mus musculus (house mouse) C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 05-Nov-1999 C;Accession: 149714	idine-rich charge 14398 r	A;Notecture type: mana A;Residues: 1-436 <res> A;Cross-references: GB:M32010; NID:g193738; PIDN:AAA37767.1; PID:g309286</res>	Query Match 8.1%; Score 325; DB 2; Length 436; Best Local Similarity 22.6%; Pred. No. 5.5e-16; Matches 135; Conservative 51; Mismatches 143; Indels 268; Gaps	93 HHDHDHUSDHEHHSDHERHSDHBHRSDHEHBSDHDFHSH-HNHAASGKNKRKAL 	146 CPDHDSDSSGKDPRNSQGKG-AHRPEHASGRRNVKDSVSASEVTSTVINTVSEGTHFLET 	

ĭ

QY 649 KAGMTVKQAVLXNALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLEM 698 : : : : : : : :	RESULT 10 C96704 unknown protein, 23065-20358 [imported] - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 31-Mar-2001 C;Accession: C96704 R;Theologis, A; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alc Chin, C.W.: Ching, M.K.: Con, T.: Conway, A.R.: Conway, A.R.: Crass, T. H.: Dewar.	ausen, N.F.; Hughes, B.; Huizar, L. Nature 408, 816-820, 2000 Nature 816-8	Query Maich 6.2%; Score 250.5; DB 2; Length 450; Best Local Similarity 18.2%; Pred. No. 1.6e-10; Matches 124; Conservative 91; Mismatches 164; Indels 303; Gaps 22; Oy 101 DHEHHSDHERHSDHEHHSDHDHSHHNHAASGKNKRKALCPDHDSDSSGKDPRN 160		DD 61 70 QY 221 SIPPSYTSKSRVSRLAGRKTURESYBFRKGFMYSRNTNBNPQECFNASKLAISHGMGIQV 280	Db 71	341 LGVILVPLMNRVPFKFLLSFLVALAVGTLSGDAFLHLLPHSHASHHHSHSHERPAME ::: : : 124 ICLVLLPIMFALILIVLEKMLSFVYSCAI	QY 398 MKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYFMFLVEHVLTLI	217 SFLWRSWCGSKILKDEGDHNNLDQQSSSDAIVNSSEKVSGGSTDKSLRKRKTSASDATD-493 YLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQ	DD 276KSDSGTELTSDGKSDKPEQVET
DD 162 165 QY 569 HHQNHHPHSHSQRYSREELKDAGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGLST 628	OY 682AENVSMWIFALTAGLEWYVALVDMVPEMLHNDASDHGCSRWGYFFLQNAGMLLGFGI 738 10 1838ANASELMLPFTAGGLIYIATTSVVPQILHSSAPDSKLREFKKWALQLVFIFVGFAV 339 OY 739 MLLISIPEH 747	RESULT 9 Hypothetical protein SPAP8A3.03 - fission yeast (Schizosaccharomyces pombe) C:Species: Schizosaccharomyces pombe C:Species: Schizosaccharomyces pombe C:Species: Schizosaccharomyces pombe C:Accession: T39240 R:Wedler, H.; Duesterhoeft, A.; McDougall, R.C.; Rajandream, M.A.; Barrell, B.G. Submitted to the RMBL Data Library, September 1999 A;Reference number: Z21742 A;Reference number: Z39240 A;Reference number: Z3	A,Gene: SPDB:SPARBA3.03 A,Map position: 1 G.7%; Score 271.5; DB 2; Length 453; Best Local Similarity 19.9%; Pred. No. 4.8e-12; Matches 116; Conservative 94; Mismatches 191; Indels 183; Gaps 17;	ISTVXNIVSECTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGR 2 : :	QY 239 KTNESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAI 294 : : :	OY 295 INQIDARSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSCVILVPEMNRVFF 354 113DNNSCVMLNSVKSFVSKQFSYSSGTNGTLATFLTAIPPNIFILLVPKSFD 162 OY 355 KFLLSFLVALAVGTLSGDAFLHLLPHSHASHEEPAMEWKRGPIRSHLSSONTER 414	163 TSMINLEVAVSAGSLIGDVFLQLLPTVYSTNGGDFPASSVYSI 415 SAYFDSTWGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVELKKQLSKYE	Db 206	529 NEYVPRGCKNKCHSHFHDTLGQSDDLIHHHHDYHHTLHHHHQNHHPHSHSQRYSREELK	OY 589 DAGVATLAMMAYIMGDG_HANFEDGLAGAAFTEGLGSGLGTSYAVFCHELPHELGDFAVLL 648 DD 294KTVYYLNLLCDSFHNFMJGLGTGAFFFTNFGIGGTFFAVLHEIFDAHIGLGLALLL 349

C; Species: Caenorhabditis elegans C; Date: 15.0ct-1999 #sequence_revision 15.0ct-1999 #text_change 18-Feb-2000 C; Accession: T19285 R; White, S. submitted to the EMBL Data Library, August 1995 A; Reference number: 219102 A; Reference number: 219102 A; Accession: T19285 A; Ratus: preliminary; translated from GB/EMBL/DDBJ A; Rolecule type: DNA A; Molecule type: DNA A; Rosidues: 1-362 <wiii>A; Rossidues: 1-362 <wiii>A; Experimental source: Glone C14H10 C; Genetios: A; Gene: CESP: C14H10.1 A; Experimental source: clone C14H10 C; Genetios: X A; Introns: 22/1; 75/2; 142/1; 215/3; 245/3; 283/3; 338/2</wiii></wiii>	THE 208; DB 2; dC. NO. 1.6e 07 Mismatches 9 SIISFLSLIGVIIV :: SSLVVSTGILPAFLI SSLVVSTGILPAFLI SSLVKKKNOKKPENI FYDKKKKNOKKPENI	545 HDTLGQSDDLIHHHHDYHHILHHHQNHHPHSHSQRYSREELKDAGVATLAWMVIMGDG 604 218	proctain Y39B6B.gg [imported] - Caenorhabditis elegans normabditis elegans (2.7 Betxt_chang 42505)
	RESULT 11 B89625 Cypecies: Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Accession: B89625 R;anonymous, The C: elegans Sequencing Consortium. Science 282, 2012-2018, 1998 A;Title: Genome sequence of the nematode C. elegans: a platform for investigating biolog A;Title: Genome sequence of the nematode C. elegans: a platform for investigating biolog A;Title: genome sequence of the nematode C. elegans: a platform for investigating biolog A;Note: published errata appeared in Science 283, 35, 1999; Science 283, 2103, 1999; and A;Notes: published errata appeared in Science 283, 35, 1999; Science 283, 2103, 1999; and A;Notes: DNA A;Residues: 1-338 cSTO> A;Residues: 1-338 cSTO> A;Cross-references: GB:Chr_X; PIDN:CAA90736.1; PID:g3874326; GSPDB:GN00028; CESP:C14H10. A;Chae: C14H10.1 A;Map position: X	Query Match 5.2%; Score 208; DB 2; Length 338; Best Local Similarity 19.9%; Pred. No. 1.4e-07; Matches 81; Conservative 53; Mismatches 91; Indels 182; Gaps 13; Dy 310 KKABIPPKTYSLQIAWVGGFIAISIISFLEGVILVPLMNRVPFKFLLSFLVAL 364 11	425 ITALGGITYEMILEDINES 425 ITALGGITYEMILEDINES 426 ITALGGITYEMILEDINES 485 DIDDRIEGENTESOLSTREEV 484 182 LCVLAG-YLTESII- 182 LCVLAG-YLTESII- 204

g Q g δy g QΣ q ŏ qq QΫ g Ω g δ ρp δğ g δ g

```
trophozoite antigen R45 (clones R23 and R45) - malaria parasite (Plasmodium falcipar C;Species: Plasmodium falciparum C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999 C;Accession: C44863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R;Bonnefoy, S.; Guillotte, M.; Langsley, G.; Mercereau-Puijalon, O.
Exp. Parasitol. 74, 441-451, 1992
A;Title: Plasmodium falciparum: characterization of gene R45 encoding a trophozoite A;Reference number: A44863; WUID:92275053; PMID:1350536
A;Rocession: C44863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL: M83
                                                                              | | : : | : : | |: | : | 1257 --YTKYLEDIYMEKKKYYKEBYSKMRRIISSNLDYEVNKQIKEHYHKVDTISEHKEQEIR 1314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1315 QHMRDKIENTIHELYKEMYVQIQIDLTNYY-----HQLENIHSELLQALQQNKNIPRHLN 1369
  QFLQKHQNYVRGHSSFITISEGEENHDNRELRKKIEANLKEEWKKRFNEQQEQRERKKKA 1008
                                                                                                                                                                                    063 EGSESDVPKDKVKPPPDGRSPDSFYYNTAISSFHEKMEELYNTS-----ISSSLNY 1113
                                                                                                                                                                                                                                                                              1114 VKEINRKFDDVYKELKSKTYPKFDDLTSQTKTNCNKLFQKLNETIKDKEYQKNIQSYKNK 1173
                                                 SASEVTSTVYNTVSEGTHFLETIETPRPGKL--FPKDVSSSTPPSVTSKSRVSRLAGRKT 240
                                                                                                                                                                                                                                                                                                                                                                                                                DAFLHLLPHSHASHHHSHSHEEPAMEMKRGPL--FSHLSSQNIEESAYFDSTWKGLTALG 429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEE----- 482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----DRIEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAH 523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              95 DHDHHSDHEHHSDHERHSDHEHHSDHEHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSS 154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: EMBL:M83790; NID:q160613; PIDN:AAA29736.1; PID:g552228; A;Note: sequence extracted from NOEI backbone (NOEIN:105027; NOEIP:105028) C;Keywords: surface antiqen; tandem repeat C;Keywords: surface antiqen; tandem repeat F;6-143/Region: 6-residue repeats (H-K-S-D-S/H-N)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 DSNHKSDHNHKSDSNHMSDHNHMSDHNHKSDHNHKSDSNHKSDSN---NHKSDSN
                                                                                                                                                                                                                                                                                                                           -----SLQIAWVGGFIAIS--IISFLSLLGVILVPLMNRVFFKFLLSFLVALAVGTLSG
                                                                                                                                         NESVSEPRK------GFMYS---RNTNENPQECFNASKLLTSHGMGIQVPLN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                     10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HKSDHNHKSDHKHMSDNNHKSDNNHKSD-----HNHKSDNNH 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     155 GKDPRNSQGKGAHRPB--HASGRRNVKDSVSASEVTSTVYNTVSEGTH 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1370 VLEKKLEITKRKKKKKKKNKPDISTSSBATDEQQVSDTLIRGAHNHGDII 1415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             524 PQEVYNEYVPRGCKNK----CHSHFHDTLGQSDDLIHHHDYHHIL 565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Match 4.4%; Score 178; DB 2; L Local Similarity 35.2%; Pred. No. 6.9e-06; es 38; Conservative 15; Mismatches 45;
                                                                                                                                                                                                                                   284 AIEFNYLCPAIINQIDARSCLIH----ISEKKAE----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       completed: September 12, 2003, 22:18:49 le : 48 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----KVDTD-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: DNA
A; Residues: 1-144 <BON>
                                                                                            600
       949
                                                 183
                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                           320
                                                                                                                                                                                                                                                                                                                                                                                                                   372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Search cor
Job time
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                        δ
                                                                                   Db
                                                                                                                                       δ
                                                                                                                                                                          용
                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                                                       27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              complex is differentially express
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26;
                                                                                            21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  105
                                                                                                                                                                                                                                   --SDHERHSDHEHHSDHEHHSDHDHHSHHNH-----AASGKNKRKALCPDHDSDSSGK 156
                                                                                                                                                                                                                                                           SSSESEDEKHHHKKRA--KKHLKKHHKKAESSSSSSSSSSSSSSSSSSSSSESEDEKHH 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                           500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ---EDEKKKKKVHHKKSHG-----KKHHKKAASSSSSSSSSSSSSSSSESEDEKKH 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -PSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQSDDLIHH-H 558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  91 HIRH--DHDHHSDH-EHHSDHERH--SDHEHHSD-HEHHSD-HDHH-SHHNHAASGKNKR 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ----PDHDS-DSSGKDPRNSQGKGAHRPEHASGRRNVKDSV 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  322 QIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSFLVALAVGTLSGDAFLHLLPHS 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             382 HASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYFMFLVEHVL 441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        262 QECFNASKLLISHGMGIQVPLNATEFNYLCPAIINQIDARSCLIHTSEKKAEIPPKTYSL 321
                                                                                                                                                                   Species: Plasmodium falciparum
Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jun-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C) Accession: T1844

R) Handman, E.; Osborn, A.H.; Symons, F.; Van Driel, R.; Cappai, R.

Mol. Biochem. Parasitol. 74, 143-156, 1995

A) Title: The Leishmania promastigote surface artigen 2 complex is different

A) Reference number: 218933; MUID:96360472; PMID:8719156

A) Accession: T18414

A) Status: preliminary; translated from GB/EMBL/DDBJ

A) Residues: 1-3119 < HAN>

A) Residues: 1-3119 < HAN>

A) Closs-references: EMBL:L04161; NID:9309687; PID:9309688; PIDN:AAC37257.1
                                                                                                                                                                                                                                                                                                                      157 DPRNSQGKGAHRPEHASGRRNVK-----DSVSASEVTSTVYNTVSEGTHFLETIETPRP
                                                                                                                                                                                                                                                                                                                                                                                                                211 GKLFPKD-----VSSSTPPSVTSKSRVSRLAGRKTNESVSEPRKGFMYSRNTNENP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TLIKOFKDKKKKNOKKPENDDDVEIKKOLSKYESQLSTNEEKVDTDDRTEGYLRADSQE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----SSSSSE-----
                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             79; Mismatches 219; Indels 170;
                                                                                                                                       55 YHLQQLFYRYGEN-NSLSVEGFRKLLQNIGIDKIKRIHIHHDHDHHSDHEHH--
                                                                                            191;
                                                 735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4.5%; Score 180; DB 2; Length 3119; 20.1%; Pred. No. 0.00033;
                                                    Length
                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4.8%; Score 194.5; DB 2;
18.1%; Pred, No. 4e-06;
ive 76; Mismatches 199;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HDYHHILHH---HH---HONHPHSHSQRY 582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ..
--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        249 AESSSSSSSSSS----
                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity 20.1 Matches 118; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    143 KALC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                  Similarity
A; Note: Y39B6B.gg
                                               Query Match
Best Local Sim
Matches 103;
                                                                                                                                                                                    15
                                                                                                                                                                                                                                 901
                                                                                                                                                                                                                                                                                                                                                                   131
                                                                                                                                                                                                                                                                                                                                                                                                                                                              189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            406
                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 14
```

g ò

Š

.

```
September 12, 2003, 21:39:56; Search time 25 Seconds (without alignments) 1420.206 Million cell updates/sec
                                                                                                                                                                                             US-09-642-034-5
4024
1 MARKLSVILILTFALSVTNP......FGIMLLISIFEHKIVFRINF 755
                                                                                                                                                                                                                                                                                                                                                                                127863
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                     127863 seqs, 47026705 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                            OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                             BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                     Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SwissProt_41:*
                                                                                                                                                                                                 Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Database :
                                                                                                                                                                                                                                                                                                                                         Searched:
                                                                                                                     Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description	Q9v3a4 drosophila	Q9xtq7 caenorhabdi	Q31125 mus musculu		Q92504 homo sapien	sacch															. P08678 saccharomyc					_			1198		salmonel		P26017 drosophila
SUMMARIES	iD	CSUP_DROME	KE4L_CAEEL	KE4_MOUSE	YGUK_CAEEL	KE4_HUMAN	YIC3_YEAST	KE4_BRARE	Y816_DROME	HRPX_PLALO	IAR1_ARATH	TOP1_DROME	HYPB_BRAJA	ZNUA_HAEIN	ZUPT_CAMJE	DSX_DROME	GUFA_MYXXA	CHD1_HUMAN	URB1_USTMA	HRP1_PLAFA	YLH3_SCHPO	CYAA_YEAST	CHD1_MOUSE	EGGS_SCHMA	HMN2_DROME	YKR5_YEAST	PI4K_DICDI	KNOB_PLAFN	SALM_DROVI	ZUPT_ECOLI	DALY_DROME	ZUPT_SALTY	ZUPT_CLOPE	PC_DROME
	DB	-	-	٦	Η	Н	П	Н	Н	-	Н	~	, 	-	Н	-	-	Н	- 1	~1	Н	Н,		 1	1	Н	Н	-	-	٦	H	H	 1	Н
	Query Match Length	449	515	476	404	469	346	352	355	351	338	972	302	337	291	549	254	1709	920	332	732	2026	1711	149	722	503	1093	657	1402	257	626	257	285	390
о к Р	Query	11.	9.8	o,	o,	ω.	7.	7.	9.	4	4.	4	m.									•						٠	•	•	•	•	3.5	
	Score	455	393.5	389	376	355.5	299	282.5	273	168	165.5	161.5	157	154	147.5	146	145	142	141	140	140	139.5	137.5	135.5	135	134	134	\sim				CJ.	Ч	٠
	Result		2.	m	4	2	Ø	7	œ	თ	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	29	30	31	32	33

015535 homo sapien 013849 schizosacch	P76425 escherichia Q08484 saccharomyc	P47395 mycoplasma Q05738 mus musculu	P19212 neurospora P28155 rhizobium l	P13817 plasmodium P09346 plasmodium	P04930 plasmodium P21750 drosophila
Z193_HUMAN CBPY_SCHPO	YOHM_ECOLI GYP1_YEAST	Y149_MYCGE SRY_MOUSE	NIT2_NEUCR HYPB_RHILV	KNOB_PLAFA KNOB_PLAFG	HRP_PLAFF SALA_DROME
\vdash	пп				\vdash
394	274	281 395	1036 299	473 634	221 142
3.1	3.1	т. т.	т. т.	 	3.1
126 126	125.5	125 125	125	124.5	124
34 35	36	80 50 87 87	40	42	44 45

ALIGNMENTS

```
STRAIN-Bristol N2;
Lennard N.;
                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hypothetical
                                                                                                                                                                                                                                                                                                            KE4L_CAEEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CARBOHYD
CARBOHYD
                                                                                                                         305
                                                                                                                                                                                                                                   704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRANSMEM
                                                                                                                                                                                                                                                                                        RESULT 2
KE4L_CAEEL
                                                                                                                                                                                                                                                                                                            QΫ
                                                         δž
                                                                             g
                                                                                                   Qγ
                                                                                                                      g
                                                                                                                                                                  qq
                                                                                                                                                                                        δ
                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to licenseisb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----DLDMSTIW 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENNSLSVEGFRKLLQNIGIDKIKRIHIHHDHDHHSDHEHHSDHERHSDHEHHSDHEHHS 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DHDHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRRNVKDSVSA 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           185 SEVISTVYNIVSECTHFLETIETPRPGKLFPKDVSSSTPPSVISKSRVSRLAGRKINESV 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      245 SEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDARSCL 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  305 IHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSFLVAL 364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        133 LHS------IGSTLLISAAPFVLL---YIIPLDNSEAMKPRLKVLLAF 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              365 AVGTLSGDAFLHLL----PHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFD 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   172 ASGCLLGDAFLHLIPHATHPHSHGEHGHDHGHDH------HHHHDGEEHEHGHSHD 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            38 GQGNP-SFKYSREANENFDPQKAPRAEHHHHDHDHGHH-----HHGHDHDHDHDHGH 91
Svirskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X., Wang Z.Y., Wassarman D.A., Weinstock G.M., Weissenbach J., Williams S.M., Woodage T., Worley, K.C., Wu D., Yang S., Yao Q.A., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu S., Zhu X., Smith H.O., Gibbs R.A., Myers E.W., Rubin G.M., Venter J.C., "The genome sequence of Drosophila melanogaster.";
                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -LINKED (GLCNAC. . .) (POTENTIAL). F7111A254C07AB4C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11.3%; Score 455; DB 1; Length 449; 20.8%; Pred. No. 1.6e-24; tive 71; Mismatches 174; Indels 312;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FlyBase; FBgn0002022; Catsup. 60: G0:0007300; P:nurse cell/cocyte transport; IMP. InterPro; IPR003689; Zn_transpt_Zip. PF02535; Zip; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----ERHTKAKP------
                                                                                                                                                                                                                                                                                                                                                                                                                                   POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                            POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                        POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-LINKED
                                                                                                                                                                                                                                                                                                                   EMBL; AF216584; AAF37226.1; -. EMBL; AE003661; AAF53744.1; -. EMBL; AV058528; AAL13757.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                146; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                             39
155
187
242
391
415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      92 рисин-ниси--
                                                                                                                                                                                                                                                                                                                                                                                                           19
135
167
222
371
395
449 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                   SECUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                   Transmembrane
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        65
                                                                                                                                                                                                                                                                                                                                                                                                                                   TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                      TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                            TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ΩŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
   ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δŽ
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
-- KQFKDKKKKNQKKPENDDD 463
                                                        222 MS-IGLWVLGGIIAFLSVEKLVRILKGGHGGHGHSHGAPKPVPAKKKSSDKEDSGDGD 280
                                                                                                                                                                               524 PQEVINEIVPRGCKNKCHSHFHDTLGQSDDLIHHHHDYHHILLHHHHHQNHHPHSHSQRYS 583
                                                                                                                                                                                                                                                                                                                                                                                          644 FAVILKAGMIVKQAVLYNALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFNYVALV 703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                353 FAILIKSGCSRRKAMLLQLVTALGALAGTALLGAGGGDGSAPWVLPFTAGGFIYIATV 412
                                                                                                                   VEIKKQLSKYESQLSTNEEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAH
                                                                                                                                                                                                                                                                                                                                                           584 REELKDAGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (GLCNAC. . .) (POTENTIAL).
(GLCNAC. . .) (POTENTIAL).
(GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUBCELLULAR LOCATION: Integral membrane protein (Probable). SIMILARITY: BELONGS TO THE KE4/CATSUP FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DMVPEMLHNDASDHGCSRWGYFFLQNAGMLLGFGIMLLISIFE 746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       413 SVLPELLEES-----TKLKOSLKEIFALLTGVALMIVIAKFE 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (OCT-1997) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16-0CT-2001 (Rel. 40, Last sequence update)
16-0CT-2001 (Rel. 40, Last annotation update)
Hypothetical Ke4-like protein H13N06.5 in chromosome X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Transmembrane; Glycoprotein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 POTENTIAL.
POTENTIAL.
POTENTIAL.
POTENTIAL.
POTENTIAL.
POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HIS-RICH,
N-LINKED (
N-LINKED (
N-LINKED (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL, 299942; CABI7070.1; -.
PIR; T23089; T23089.
Wormbep; H13N06.5; CE18815.
InterPro; IPR03589; Zn_transpt_Zip.
Pfan, PP02535; Zip; 1.
STWKGLTALGGLYFMFLVEHVLTLI-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16-00T-2001 (Rel. 40, Created)
16-0CT-2001 (Rel. 40, Last segu
16-0CT-2001 (Rel. 40, Last anno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             69
234
267
317
406
449
182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HĪŠNO6.5.
Caenorhabditis elegans.
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ---HDSLHG------GHGHAHR-EHSHG------123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ------TVTLWAY 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          325 WVGGFIAISIISFLSLLGVILVPL-MNRVFFKFLLSFLVALAVGTLSGDAFLHLLPHS-- 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -HASHH-----HSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYFM 434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                205 IETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKTNESVSEPRKGFMYSRNTNENPQEC 264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     265 FNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDARSCLIHTSEKKABIPPKTYSLQIA 324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      V -> I. (IN REF. 1).
ACALLITEGGAVDDYAGGAGGWULPFTAGGFIYVATVSVL
PELLERASPLOSLLEVIGILGGVAMNYLIAHLE -> RVPF
SPREGGWTVTWQVVQVLAGSCHSLQADLST (IN REF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HEDHOHHSDHE--HHSDHERHSD----HEHHSDHEHHSDHDHHSH-HNHAASGKNKRKAL
    "A putative transmembrane protein with histidine-rich charge clusters encoded in the H-2K/tw5 region of mice."; Mol. Cell. Biol. 10:138-145(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             146 CPDHDSDSSGKDPRNSQGKG-AHRPEHASGRRNVKDSVSASEVTSTVYNTVSEGTHFLET
                                                                                                                                                                                                                                            -:- SUBCELLUIAR LOCÁTION: Integral membrane protein (Probable).
-:- TISSEB SPECIFICITY: EXPRESEED ABUNDANTLY IN EMBRYONIC CARCINOMA CELLS, BUT WEAKLY IN ADULT IISSUES.
-:- SIMILARITY: BELONGS TO THE KRA/CARGUP FAMILY.
                                                                                                                                   Rowen L., Qin S., Madan A., Loretz C., James R., Dors M., Mix L.,
Hall J., Lasky S., Hood L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels 282;
                                                                                                                                                            Hall J., Lasky S., Hood L.; "Sequence of the mouse major histocomaptibility locus class II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 476;
                                                                                                                                                                                                                      Submitted (OCT-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             48214438BE44919B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9.7%; Score 389; DB 1; L. Larity 23.0%; Pred. No. 7.4e-20; Conservative 66; Mismatches 175;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----TSREAG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POTENTIAL.
POTENTIAL.
POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          POTENTIAL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HIS-RICH.
HIS-RICH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR003689; Zn_transpt_Zip.
Pfam; PF02535; Zip; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; M32010; AAA37767.1; -.
EMBL; AF100956; AAC69903.1; -.
MGD; MGI:95909; H2-Ke4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               50656 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Glycoprotein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               476 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Simi
ses 156;
                                                                                                                                                                                                         region.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q_{\overline{Y}}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q_{\overline{Q}}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                   91 HIH-HDHDHHSDHERHSDHERHSDHEHHSDHEHHSDHDHHSHNHAAASGKNKRKALCPDH 149
                                                                                                                                                                                                                                                                                                                                                                                                                  329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----DH 178
                                                                                                                                                                                                                                      150 DSDSSGKDPRNSQGKGAHRPEHASGRRNVKDSVSASEVTSTVYNTVSEGTHFLETIETPR 209
                                                                                                                                                                                                                                                                                       197
                                                                                                                                                                                                                                                                                                                                 269
                                                                                                                                                                                                                                                                                                                                                                          204
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ------DAKTRL---------WVYAI 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  330 IAISIISFLSLLGVILVPLM-NRVFFKFLLSFLVALAVGTLSGDAFLHLLP----- 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             496 ADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVINEYVPRGCKNKCHSHFHDTLGQSDDLI 555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----RGEDGHGHSHGHSHGGEKKET- 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      342 ------KEKDSKDKVAKKEEKPEKDEQSIKVTAYLNIAADFTHNFTDGLAIG 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     676 IFIGHTAEN-----VSMWIFALTAGLFMYVALVDMVPEMLHNDASDHGCSRWGYFFL 727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -HSHASHHHSH---SHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYFMF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEKVDTDDRTEGYLR
                                                                                                                                                                                                                                                                                                                           210 PGKLFPKDVSSSTPPSVTSKSRVSRLAGRKTNESVSEPRKGFMYSRNTNENPQECFNASK
                                                                                                                                                                                                                                                                                                                                                                                                                270 LLTSHGMGIQVPLNATEFNYLCPAIINQIDARSCLIHTSEKKAEIPPKTYSLQIAWVGGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---GW-----VLGGIIAFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                556 HHHHDYRHILHHHHQNHHPHSHSQRYSREELKDAGVATLAWMYIMGDGLHNFSDGLALG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  616 AAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLYNALSAMLAYLGNATG
                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus.
        (POTENTIAL)
                                                                                                               327;
                                                                     Length 515;
                                                                                                                                                                                                                                                                                                                                                                          --GFLSFLN----
                                                                                                               Indels
                                                                                                                                                                                                HAHDHDHGHAHDHGHAHDHHGHS-HDEEEDHHHGHAHDHHGHSHE-
                                                                                                                                                                                                                                                                                ----HSHGAESAKQVGDEYQYT-----
    N-LINKED (GLCNAC, . .) (P. 17D7E854F4E1DAAF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    [1]
SEQUENCE FROM N.A.
MEDLINE=90097821; PubMed=2294398;
St Jacques B., Han T.-H., Macmurray A., Shin H.-S.;
                                                                     DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4e-20;
                                                                Score 393.5; D
Pred. No. 4e-20
4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             276 GHSH-SHGHSHGGGGHSHGAHDMSVG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QNA----GMLLGFGIMLLISIFE 746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16-OCT-2001 (Rel. 40, Last annotation Histidine-rich membrane protein Ke4 HKE4 OR H2-KE4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  493 QTVKEIFALLTGIFLMYLIAIYE
                                                                                                           64;
  488 N-
55500 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  312 TVEKLVRIL------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                   9.8%;
                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mus musculus (Mouse).
                      515 AA;
                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=10090
                                                                                                                                                                                                                                                                                  179 G----
                                                                                                             139;
CARBOHYD
SEQUENCE
                                                                                                                                                                                              133
                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                       198
                                                                                                                                                                                                                                                                                                                                                                                                                                                        205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        728
                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KE4_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 3
  SO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ° QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           THE STATE OF THE S
                                                                                                                                                                                           셤
                                                                                                                                                                                                                                        ğ
                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QΣ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    . q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ğ
```

26;

g

δŽ

q QΫ́ a q

δŽ

g ð g

δŽ

```
---GGHCHS- 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                306 HTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLM--NRVFFKFLLSFLVA 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   544 FHDTLGQSDDLIHHHHDYHHILHHHHQNHHPHSHSQRYSR--ЕЕLKDAGVATLAWMVIM 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              602 GDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLYN 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         662 ALSAMLAYLGMATGIFIGHYA----ENVSMWIFALTAGLFMYVALVDMVPEMLHNDASDH 717
                                                                                                                                                                                                                                                                            HTSHR--EIQHSRLSTLKVWVFSLSAVVGISLAPCTLLFFIPAQHANGPFLKILLAF--- 121
                                                                                                                                                                                                                                                                                                                                   364 LAVGTLSGDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTWK 423
                                                                                                                                                                                                                                                                                                                                                                                                                                                GLTALGGLYFWFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEK 483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        484 VDTDDRTEGTLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE-Kidney;
MEDLINE-97001166; PubMed-8812499;
Ando A., Kikuti Y.Y., Shigenari A., Kawata H., Okamoto N., Shiina T.,
Chen L., Ikemura T., Abe K., Kimura M., Inoko H.;
"CDNA cloning of the human homologues of the mouse Ke4 and Ke6 genes
                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Dala Distriction (hordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
     N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                    63; Mismatches 139; Indels 138;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   'Molecular cloning and characterization of the human KE4 gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
Vergara A., Lana I., Corella A., de Miguel C., Migliaccio M.,
                                                                                                                Length 404;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                flanking region.";
Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
                                     77C40C592B36E709 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 at the centromeric end of the human MHC region."; Genomics 35:600-602(1996).
                                                                                                          9.3%; Score 376; DB 1; 24.1%; Pred. No. 4.9e-19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTFVIAGILVEMMVEQLVRIIK--------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Histidine-rich membrane protein Ke4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               469 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 718 G----CSRWGYFFLQNAGMLLGFGIMLL 741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361 NNLSKVAKMAQSLVHVLAICMGVGMMYI 388
248 248 N-
362 362 N·
404 AA; 44884 MW;
                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens (Human)
                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           [1]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      [3]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9UIQ0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HKE4 OR RING5.
                                                                                                                                                                    108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KE4_HUMAN
Q92504; Q9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Encio I.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tubby B.;
     CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                              124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       199
                                                                                                                                                                                                                                                                            67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    171
                                                         SEQUENCE
                                                                                                                Query Match
                                                                                                                                             Local
                                                                                                                                             Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KE4_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 5
     FI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          윤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               THE SECTION OF THE SE
                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                          554
                                                                                   ---GGHGHSHGHGDRHAHGDSHTHG-- 271
                                                                                                                                                                                                                                               555 IHHHHDYHHILHHHHQNHHPHSHSQRYSREELKDAGVATLAWMYIMGDGLHNFSDGLAI 614
                                                                                                                                                                                                                                                                                                   308 V-----ADLAHNFTDGLAI 344
                                                                                                                                                                                                                                                                                                                                                          615 GAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLYNALSAMLAYLGMAT 674
                                                                                                                                                                                                                                                                                                                                                                                          GIFIGHYAENVSM-----WIFALTAGLFMYVALVDMVPEMLHNDASDHGCSRWGYFFL 727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEKVDTDDRTEGYL 494
                                                                                                                                                                          --DRHECS--SKEKPSTEEEKEV--------GGLRKRRGGN----TGPRDGP
                                                                                                                                    495 RADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQSDDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (NOV-1996) to the EMBL/GenBank/DDBJ databases.
-!- SUBCELLULAR LOCATION: Integral membrane protein (Probable).
-!- SIMILARITY: BELONGS TO THE KE4/CATSUP FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16-0CT-2001 (Rel. 40, Created)
16-0CT-2001 (Rel. 40, Last sequence update)
Hypothetical 44.9 kDa protein T28F3.3 in chromosome IV.
T28F3.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Transmembrane; Glycoprotein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           404 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POTENTIAL. POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        POTENTIAL. POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             POTENTIAL.
HIS-RICH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HIS-RICH.
HIS-RICH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WormPep; T26F3.3; CE19807.
InterPro: IPR001689; Zn_transpt_Zip.
Pfam; PF00253; Zip; 1.
Hypothetical protein; Transmembrane;
TRANSMEM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               728 QNAGMLLGFGIMLLISIFE 746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  : |:| | :|:| | 476
458 EVLGLLGGVAMMVLIAHLE 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; Z82285; CAB05297.1; -.
                                                                                239 LVVEKFVRHVK-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PIR, T25420, T25420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN-Bristol N2;
Mortimore B.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1117
1711
2255
3303
3303
369
119
1195
166
152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YGJK_CAEEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TRANSMEM
TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRANSMEM
                            435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
```

HERER REPRESENTATION OF THE FEET OF THE PET OF THE PET

വ

```
-----AWMVIMGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLL 648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        372 OSGCSKKQAMRLQLLTAVGALAGTACALLTEGGAVGSEIAGGAGGRGWLPFTAGGFIYVA 431
                  HDSDSSGKDPRNSQGKGAHRPEHASGRRNVKDSVSASEVTSTVYNTVSEGTHFLETIETP 208
                                                                -----ESG 121
                                                                                                                                                                133
                                                                                                                                                                                                                 KLLTSHGMGIQVPLNATERNYLCPAIINQIDARSCLIHTSEKKAEIPPKTYSLQIAWVGG 328
                                                                                                                                                                                                                                                                                                                 329 FIAISIISFLSLLGVILVPL-MNRVFFKFLLSFLVALAVGTLSGDAFLHLLPHS---HAS 384
                                                                                                                                                                                                                                                                                                                                              385 HH-----HSHSHEEPAMEWKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYFMFLVE 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                             198 HHTLEQPGHGHSHS-----GQGPILS------VGLWVLSGIVAFLVVE 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              439 HVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEKVDTDDRTEGYLRADS 498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              499 QEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQSDDLIHHH 558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               242 -----GGHGHSHG-----HG 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               252 HAHSHTRGSHGHGRQERSTKEKQSSEEEEKETRGVQKRRGGSTVPKDGPVRPQNAEEEKR 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              649 KAGMTVKQAVLYNALSAMLAYLGMATGIFI--GHYAENVS-----MWIFALTAGLFMYVA 701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Churcher C.M., Bowman S., Badcock K., Bankiar A., Brown D., Chillingworth T., Connor R., Devlin K., Gentles S., Hamlin N., Harris D.E., Horsnell T., Hunt S., Jagels K., Jones M., Lye G., Moule S., Odell C., Pearson D., Rajandream M.A., Rice P., Rowley N., Skelton J., Smith V., Walsh S., Whitehead S., Barrell B.G.; "The nucleotide sequence of Saccharomyces cerevisiae chromosome IX."; Nature 387:84-87(1997).
                                                                                                                    RPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKTNESVSEPRKGFMYSRNTNENPQECFNAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota, Fungi, Ascomycota, Saccharomycotina, Saccharomycetes; Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -i- SUBCELLULAR LOCATION: Integral membrane protein (Probable).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Hypothetical 37.4 kDa protein in IRRI-TIM44 intergenic region.
ILL023C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              702 LVDMVPEMLHNDASDHGCSRWGYFFLQNAGMLLGFGIMLLISIFE 746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          432 TVSVLPELLREASPLQS-----LEVLGILGGVIMMYLIAHLE 469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   559 HDYHHILHHHHQNHHPHSHSQRYSREELKDA------GVATL---
                                                                                                                                                                     122 APG--IKQDLDAVI-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         346 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Saccharomyces cerevisiae (Baker's yeast).
                                                                     HES-----LYHRGHG-HDHEHSHGGYG--
                                                                                                                                                                                                                                                                     134 --LWAYALGATVLISAAPF-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                235 KFVRHVK-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 [1]
SEQUENCE FROM N.A.
STRAIN=S288c / AB972;
PubMed=9169870;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=4932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YIC3_YEAST
P40544;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   969
                                                                                                                                                                                                                                                                                                                                                                  151
                    49
                                                                     86
                                                                                                                    509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YIC3_YEAST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \delta \gamma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HAPPEN AND THE PROPERTY OF THE
                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                 δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ă
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \delta Y
                                                                                                                    QΥ
                                                                                                                                                                   엄
                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                    δŽ
                                                                g
                                                                                                                                                                                                                       QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23;
                                                                                                            Figuraberg R.L., Techorgold E.A., Grouse L.H., Derge J.G.,
Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
Altexhul S.F., Zeeberg B., Buerow K.H., Schaefer C.F., Bhat N.K.,
Altexhul S.F., Zeeberg B., Buerow K.H., Schaefer C.F., Bhat N.K.,
Hopkins R.F., Jordan H., Moore T., Mans S.I., Wang J., Hsieh F.,
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., Toshiyukis, Carninci P., Prange C.,
Raha S.S., Loquellano N.A., Perters G.J., Abramson R.D., Mullahy S.J.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Richards S., Worley K.C., Hale S., Garcia A.W., Gay L.J., Hulyk S.W.,
Rhyllalon D.K., Muxny D.M., Sodergren E.J., Lu K., Glubbs R.A.,
Rhylling M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
Schnerch A., Schein J.B., Jones S.J.M., Marra M.A.;
Schnerch A., Schein J.B., Jones S.J.M., Marra M.A.;
Human and moules CDNA sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              НІННОНДНЯЗОНЕННSDHERHSD-HEHHSDHEH-HSDHDHHSHHNHAASGKNKRKALCPD 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-LINKED (GLCNAC, . .) (POTENTIAL).
A -> G (IN REF. 1 AND 2).
E -> G (IN REF. 1 AND 2).
S -> T (IN REF. 1 AND 2).
CALLTEGGANGSRIAGGAGPGWVLPFTAGGFIYVATVSVLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ELLREASPLÓSLLEVLGLLGGVIMMYLIAHLE -> VPFSL
KEEQWTYKLQVVQVLAGSCHLLQVALST (IN REF. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          НЅНЕОFИНGНЅНАНСЯСИТИЕSIWHGHTHDHDHGHSHEDLHHGHSHGYS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LUNG, KIDNEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             333;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
-!- SUBCELLULAR LOCATION: Integral membrane protein (Probable)
-!- TISSUE SPECIFICITY: MAJOR EXPRESSION IN PLACENTA, LUNG, KII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 469;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
Submitted (OCT-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6504A1EF5AA6A5B9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AND PANCREAS.
-!- SIMILARITY: BELONGS TO THE KE4/CATSUP FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             68; Mismatches 159;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 355.5; DB :
Pred. No. 1.6e-17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MIN, 0014110, C. membrane fraction; TAS. GO; GO'015024; C. membrane fraction; TAS. INCEPRO, IPRO03689; Zn_transpt_Zip. Pfam; PF02535; Zip; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HIS-RICH.
                                                                                             MEDLINE=22388257; PubMed=12477932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; D82060; BAA11528.1, -.
EMBL; AF171221; AAD12305.1, -.
EMBL; AL031228; CAA20238.1, -.
EMBL; BC000645; AAH00645.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                M
M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Glycoprotein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           50118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                158
189
234
401
1114
330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Genew; HGNC:4927; HKE4
MIM; 601416; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           469 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity
                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10
138
169
2214
381
417
30
238
330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
```

```
between the Swiss Institute of Bioinformatics and the EMBL outstation—
the European Bioinformatics Institute. There are no restrictions on its
use by non-profit institutions as long as its content is in no way
modified and this statement is not removed, Usage by and for commercial
entities requires a license agreement (See http://www.isb-sib.ch/announce/
or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10;
  SWISS-PROT entry is copyright. It is produced through a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | : | | : | : | | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HSHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYFMFLVEHVLTLIKQFK 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            330 IAISIISFLSLIGVILVP-LMNRVFFKFLLSFLVALAVGTLSGDAFLHLLPHSHASHHHS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----LSGVT-----DVTMVGGAIFLGFIS-FLTL----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DKKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEKVDTDDRTEGYLRADSQEPSHFDSQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQSDDLIHHHHDYHHH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ----HSHSHTPQQTAE--KKAGFNMSAYLNVISGIAHHITDGIALATSFYSSTQVGIMT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---AENVSMWIFALTAGLFMYVALVDMVPEMLHNDASDHGCSRWGYFFLQNAGMLLGFGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        569 HHQNHHPHSHSQRYSREELKDAGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGLST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SVAVFCHELPHELGDFAVLLKAGMTVKQAVLYNALSAMLAYLGMATGIFIGHY-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-LINKED (GLCNAC. .) (POTENTIAL).
N-LINKED (GLCNAC. .) (POTENTIAL).
N-LINKED (GLCNAC. .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 299; DB 1; Length 346;
Pred. No. 9.9e-14;
51; Mismatches 115; Indels 164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
18-PEB-2003 (Rel. 41, Last annotation update)
Histidine-rich membrane protein Ke4 homolog (Fragment).
HKF4 OK KE4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-LINKED (GLCNAC. . .) (PO
645960E194778006 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -SHISD------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     352
                                                                                                                                                                                                                                                                                                                                                                      POTENTIAL.
POTENTIAL.
POTENTIAL.
POTENTIAL.
POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POTENTIAL
                                                                                                                                                                                                                                                            SGD; S0001285; YIL023C.
InterPro; IPR003689; Zn_transpt_Zip.
Pfam; PF02535; Zip; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 37418 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7.48:
                                                                                                                                                                                                         EMBL; 246881; CAA86969.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DKTMRILSGTSNDD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MALMD--EH 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MLLISIFEH 747
                                                                                                                                                                                                                                                                                                                                                Hypothetical protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        285
346 AA;
                                                                                                                                                                                                                                   PIR; S49959; S49959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                  70
100
127
203
253
291
323
184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KE4_BRARE
Q9PUB8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    340
                                                                                                                                                                                                                                                                                                                                                                                                                                                        TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      124
                                                                                                                                                                                                                                                                                                                                                                         TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                     TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                              TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KE4_BRARE
ID KE4_B
AC Q9PUB
DT 16-OC
DT 16-OC
DT 28-FE
DE Histi
GN HKE4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 7
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QΥ
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----HSDHEHH-SDHERHSDHEHBSDH 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 EH-HSD-HDH-HSH-HNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRR 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        84 AHSHGDIHDHGHAHKHGHA-----AGKR 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        177 NVKDSVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLA 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       237 GRKTNESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIIN 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      297 QIDARSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLM-NRVFFK 355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ------FLIPVQSNTDQHQ 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      356 FILSFLVALAVGTLSGDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEES 415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   416 AYFDSTWKGLTALGGLYFMFLVEHVLTLIK-------QFKDK----KKKNQKK 457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      458 PENDDDVEIKKQLSKYESQLSTNEEKVDT--DDRTEGYLRADSQEPSHFDSQQPAVLEEE 515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         нзининдисресснензиесакиннеазкизавальрнаевеннунриситирнанрисн 83
        Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
Cyprinidae; Danio.
                                                                                                                          in zebrafish.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7.0%; Score 282.5; DB 1; Length 352;
19.2%; Pred. No. 1.4e-12;
Live 43; Mismatches 113; Indels 339;
                                                                                                                                                          SUBCELLULAR LOCATION: Integral membrane protein (Probable).
                                                                                         SEQUENCE FROM N.A.

WINTRY B.W., Sueltmann H., Klein J.,

"Identification of a homolog of the human HKE4 gene in z

Submitted (OCT-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               37922 MW; C8C8C6OF6D2BA8A6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GEKD------KVVSQQKPTKKTVETSSDIKVSGYLN-
                                                                                                                                                                         -!- SIMILARITY: BELONGS TO THE KE4/CATSUP FAMILY.
Brachydanio rerio (Zebrafish) (Danio rerio).
                                                                                                                                                                                                                                                                                                                                                                                                                    POTENTIAL.
POTENTIAL.
POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 POTENTIAL.
POTENTIAL.
HIS-RICH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HIS-RICH.
                                                                                                                                                                                                                                                                                                                                EMBL; AF196345; AAF05821.1; -
ZFIN; ZDB-GENE-991110-20; ke4.
InterPro; IPR003689; Zn_transpt_zip.
                                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF02535; Zip; 1.
Transmembrane; Glycoprotein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                нтинонон-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                   148
181
235
338
105
217
311
                                                                                                                                                                                                                                                                                                                                                                                                                                 128
161
161
215
215
318
318
177
311
352 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              118; Conserv
                                                           NCBI_TaxID=7955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120 NMVE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CARBOHYD
NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                   TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local ;
                                                                                                                                                                                                                                                                                                                                                                                                                     TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \Omega
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22
```

```
[1]
SEQUENCE FROM N.A.
MEDLINE-85061618; PubMed-6095114;
Ravetch J.V., Feder R., Pavlovec A., Blobel G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                      POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                 POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                               POTENTIAL.
                                                                                                                                                                                                                                                FlyBase; FBgn0039714; CG7816.
InterPro; IPR003689; Zn_transpt_Zip.
Brain PF02535; Zip; 1.
Hypothetical protein; Transmembrane; TRANSMEM 37 57 POTENTIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     38870 MW;
                                                                                                                                                                                                                      EMBL; AE003771; AAN14195.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        96; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                                                                                                                                                                                            57
99
138
293
321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    218 3
355 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=5853;
                                                                                                                                                                                                                                                                                                                                                                                                                                            118
273
301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13-AUG-1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        115 RS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HRPX_PLALO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                            TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                 IRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HRPX_PLALO
AC PAGES,
DT 13-AUG-S)
DT 13-AUG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P04929;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
   SPETTE BENEVAL SOLUTION OF THE SET THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ΩŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REDELING-20196066; PubMed=10731132;
RA Adams M.D. Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Adams M.D. Celniker S.E., Hill P.W., Hoskins R.A., Galle R.F.,
RA Adams M.D., Celniker S.E., Hill P.W., Hoskins R.A., Galle R.F.,
RA George R.A., Lewis S.E., Richards S., Ashburner M., Headerson S.N.,
RA George R.A., Lewis S.E., Richards S., Ashburner M., Headerson S.N.,
Brandon R.C., Rogers V.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA MELI J.F., Agbayani A., Ra H.-J., Andrews-Pfannkoch C. R., Miklos G.L.G.,
Abril J.F., Agbayani A., Ra H.-J., Rayraktaroqlu L., Beasley E.M.,
RA Ballew R.M., Basan A., Baxendala J., Bayraktaroqlu L., Beasley E.M.,
RA Ballew R.M., Basan A., Baxendala J., Bayraktaroqlu L., Beasley E.M.,
RA Ballew R.M., Basan D.A., Buller H., Cadieu E., Center A., Chandra I.,
RA Cherry J.M. Cawley S., Dallor H., Cadieu E., Conter A., Chandra I.,
RA Cherry J.M. Cawley S., Dallor H., Cadieu E., Conter A., Chandra I.,
RA Cherry J.M. Cawley S., Dallor B., Durkow B.C., Dunn P.,
Burtis K.C., Busam D.A., Buller H., Cadieu E., Durkow B.C., Dunn P.,
Burtis K.C., Busam D.A., Buller H., Cadieu E., Cherry J.M.,
RA Charry J.M. Cawley S., Dallor B., Durkow B.C., Dunn P.,
Burtis K.C., Deltor A., Bownes M., Dugarn-Rocha S., Pleischmann W.,
Burtis K., Gong F., Gorrell J.M., Hernandez J.R., Houck J.,
RA Harris N.L., Harvey D., Heinan T.J., Hernandez J.R., Houck J.,
Alalali M., Kalush F., Karpen G. H., Ke Z., Kennison J.A., Kerthum K.A.
Alakoh M., Moy M., Wurphy B., Murphy L., Muzry D.M., Nelson D.R.,
Rander B., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
Alalali M., Moy M., Wurphy B., Murphy L., Muzry D.M., Nelson D.R., Melson K.A., Mison K., Musskern D.R., Scheler F., Shen H.,
Rander K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
Rander K., Salen Kiamos I., Simpson M., Stupski M.P., Santh T.,
Rander K., Salen Kiamos I., Sunders R.D.C., Scheeler F., Shen H.,
Rander K., Woodage T., Worley K.C., Wu B., Yang S., Yao Q., Zheng R.,
Rander S.M., Wayers E.W., Rubin G.W., Verley S., Yao Q., Zheng R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration
EVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQSDDLIHHHHDYHHILLHHHHQNHHP
                                                                                                                                                                                       --LAADFTHNFTDGLAIGASFLVGPAVGAVTTITILLH
                                                                                                                               HSHSQRYSREELKDAGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -1- SUBCELLULAR LOCATION: Integral membrane protein (Probable).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Drosophila melanogaster (Fruit fly).
Bukaryota, Metazoa, Arthropoda; Haszpoda, Insecta, Pterygota,
Neoptera, Endopterygota, Diptera, Brachycera; Muscomorpha,
Ephydroidea, Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (Rel. 40, Created)
(Rel. 40, Last sequence update)
(Rel. 42, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    355 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Science 287:2185-2195(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hypothetical protein CG7816.
                                                                                                                                                                                                                                                       636 ELPHELGDFAVLL 648
                                                                                                                                                                                                                                                                                        |:|||:|||:|
EVPHEIGDFALLV 352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=7227;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN=Berkeley;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6-0CT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16-OCT-2001
15-SEP-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Y816_DROME
                                                               304
                                                                                                                           216
                                                                                                                                                                                       304
                                                                                                                                                                                                                                                                                                                   340
                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 8
Y816_DROME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                       δŽ
                                                               g
                                                                                                                               ď
                                                                                                                                                                                                                                                                                                                   d
   δž
```

```
between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                470 ISKYESQLSTNEEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYN 529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----GYASADEENP-----QPKCVEIANCLL-RRHGGQLPE 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       530 EYVPRGCKNKCHSHFHDTLGQSDDLIHHHHDYHHILLHHHHQNHHPHSHSQRYSREELKD 589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             167 GETSESCGGACDI---EDVGKVCFL---------REQEQKSKERKE 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          590 AGVATLAMMYIMGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLK 649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    201 OPKKVAGYLNILLANSIDNFTHGLAVAGSFLVSFRHGILATFAILLHEIPHEVGDFAILLR 260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 650 AGMT---VKQAVLYNALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVDWV 706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DARSCLIHTSEKKAEIPPKTYSLQIA-WVGGFIAISIISFLSLLGVILVPL---MNRVFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----GLWVLSGILIFTIVEKIFS-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  K----FLLSFLVALAVGTLSGDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFSHLSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QNIEESAYFDSTWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    POTENTIAL.
N-LINKED (GLCNAC. ..) (POTENTIAL).
N-LINKED (GLCNAC. ..) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6.8%; Score 273; DB 1; Length 355;
20.8%; Pred. No. 6.8e-12;
.ive 76; Mismatches 162; Indels 128;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Plasmodium lophurae.
Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PEMLHNDASDHGCSRWGYFFLQNAGMLLGFGIMLLIS-IFEH 747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01527C0390741FE8 CRC64;
                                                                                                                                                                                                                                                                                                                                             Transmembrane; Glycoprotein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-AUG-1987 (Rel. 05, Created)
13-AUG-1887 (Rel. 05, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
Histidine-rich glycoprotein precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            351 AA
```

207 НИННИНАР------НИННИНИНС------НИННИН 253

g

œ

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

SEQUENCE Olumbia;

MEDLINE-210[6719; PubMed-11130712;

Theologis A., Ecker J.R., Palm C.J., Federspiel N.A., Kaul S.,

Theologis A., Ecker J.R., Palm C.J., Federspiel N.A., Kaul S.,

White O., Alonso J., Altafi H., Araujo R., Bowman C.L., Brooks S.Y.,

Buehler E., Chan A., Conway A.B., Creasy T.H., Dewar K.,

Chung M.K., Conn L., Conway A.B., Creasy T.H., Dewar K.,

Dunn P., Ergu P., Feldblyum T.V., Feng J.D., Fong B., Fuji C.Y.,

Anner J.L., Jenkins J., Johnson-Bopson C., Khan S., Khaykin E.,

Hunter J.L., Jenkins J., Johnson-Bopson C., Khan S., Knaykin E.,

Kim C.J., Koo H.L., Kremenetskaia I., Kurtz D.B., Kwan A., Lam B.,

Langin-Hooper S., Lee J.M., Luors J.S., Malti R., Marziali A.,

Inn X., Liu S.X., Liu Z.A., Luors J.S., Malti R., Marziali A.,

Militscher J., Miranda M., Nguyen M., Nlerman W.C., Osborne B.I.,

Rai G., Peterson J., Pham P.K., Rizzo M., Rooney T., Rowley D.,

Sakano H., Salzberg S.L., Solwartz J.R., Shinn P., Southwick A.M.,

Sakano H., Salzberg S.L., Solwartz J.R., Shinn P., Southwick A.M.,

Sakano H., Tallon L.J., Tambunga G., Toriumi M.J., Town C.D.,

Wu D., Yu G., Fraser C.M., Venter J.C., Davis R.W.,

"Sequence and analysis of chromosome I of the plant Arabidopsis
                                                                                                                                                                                                                                                                                                                 Eukaryota; Viridiplantae; Streptophytá; Embryophyta; Tracheophyta;
Spermatophyta; Magnollophyta; eudicotyledons; core eudicots; Rosidae;
eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAUTION: Ref.2 sequence differs from that shown due to erroneous gene model prediction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
STRAIN-cv. Columbia;
Shinozaki K., Davis R.W., Ecker J.R., Theologis A.;
Shinozaki K., Davis R.W., Ecker J.R., Theologis A.;
"RIKEN Arabidopsis full length cDNA clones (RAFLS) sequenced by the
SSP consortium (Salk/Stanford/PGEC).";
Submitted (JAN-2002) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: MAY PARTICIPATE IN AUXIN METABOLISM OR RESPONSE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lasswell J.E., Rogg L.E., Nelson D.C., Rongey C., Bartel B.; "Clonning and characterization of IAR1, a gene required for auxin conjugate sensitivity in Arabidopsis."; plant Cell 12:2395-2408(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SUBCELLULAR LOCATION: Integral membrane protein (Probable). SIMILARITY: BELONGS TO THE KE4/CATSUP FAMILY. CAUTION: Ref.1 sequence differs from that shown due to a
                                                                                                                                          09M647; Q8VYF8; Q9C9X4;
16-OCT-2001 (Rel. 40, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
                                                                                                                         338 AA
                                                                                                                                                                                                                                          IAA-alanine resistance protein 1.
IAR1 OR AT1G68100 OR T23K23.5.
Arabidopsis thaliana (Mouse-ear cress).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; AF216524; AAF32299.1; ALT_FRAME.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           frameshift in position 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Landsberg erecta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROBABLE TRANSPORTER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nature 408:816-820(2000).
                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                   [1]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN=cv. Lands
PubMed=11148286;
                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=3702;
                                                                                                                           IAR1_ARATH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     thaliana.
                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RYGENNSLSVEGFRKLLQ---NIGIDK-----IKRIHIHHDHDHHSDHHS-DHERHS 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DHE-----HUSDHEHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKG 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       166 AHRPEHASGRRNVKDSVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPS 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     226 VISKSRVSRLAGRKINESVSEPRKGFMYSRNINENPQECFNASKLLITSHCMGIQVPLNAT 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----ннеевниниваннирменниски---- 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RENYLCPAIINQIDARSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVIL 345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  346 VPIMNRVFFKFILSFLVALAVGTLSGDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFS 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               406 HLSSQNIEESAYFDSTWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVE 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               466 IKKQLSKYESQLSTNEEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMLAHAHPQ 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EVINEYVPRGCKNKCHSHFHDTLGQSDDLIHHHHDYHHILHHHHQNHHPHSHSQRYSRE 585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QYSGSNSCSSSLVKHIPQTGSNLTFDRVLVEDTVHPEHLHEEHHHHPEEHHEPHHEEHH 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ------ннідрінніннідр------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                              Q.
"Primary structure and genomic organization of the histidine-rich protein of the malaria parasite Plasmodium lophurae.";
Nature 312:616-620(1984).
-!- MISCELLANEOUS: IN THE INTRAERYTHROCYTIC STAGES OF DEVELOPMENT C P.LOPHURAE IN DUCKS, THERE IS A SYNTHESIS OF A MAJOR PROTEIN TE ACCUMULATES TO COMPRISE AT LEAST 50% OF THE CELLULAR MASS: THE HISTIDINE RICH PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          79 нинревинерикевининирирининин-------------------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (PROBABLE).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               322;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4.2%; Score 168; DB 1; Length 351; 13.3%; Pred. No. 0.00015; tive 30; Mismatches 116; Indels 3:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HISTIDINE-RICH GLYCOPROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18 X 10 AA TANDEM REPEATS.
D19A48D47D890453 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-LINKED (GLCNAC. . .) (F
2 X 16 AA TANDEM REPEATS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       X 15 AA TANDEM REPEATS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                X 17 AA TANDEM REPEATS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --- ННННННААНН---
                                                                                                                                                                                                                                                                                                                                                                                                                                        Malaria; Repeat; Glycoprotein; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    44032 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             _
                                                                                                                                                                                                                                                                                                                                                                                   EMBL; X01469; CAA25698.1; -. PIR; A22692; KGZQHL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     119 -нняннааннинке---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       351
40
90
90
74
123
1123
1153
1153
351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    351 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
les 72; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CHAIN
```

8 셤 Qγ QQ ζŏ 셤 δ ద Qγ ద Ω q ă 셤 쉱 ρχ

```
20;
                                                                                                                                                                                           101 DHEHHSDHERHSDHEHHSDHEHHSDHDHHSSHNHAASGKNKRKALCPDHDSDSSGKDPRN 160
                                                                                                                                                                                                                               161 SQGKGAHRPEHASGRRNVKDSVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSS 220
                                                                                                                                                                                                                                                                   221 STPPSVTSKSRVSRLAGRKTNESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMG1QV 280
                                                                                                                                                                                                                                                                                                         281 PLNATEFNYLCPAIINQIDARSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSL 340
                                                                                                                                                                                                                                                                                                                          ------WINALGCSLLVSLASI 123
                                                                                                                                                                                                                                                                                                                                             341 LGVILVPLMNRVFF-----KFLLSFLVALAVGTLSGDAFLHLLPHS-------HAS 384
                                                                                                                                                                                                                                                                                                                                                         H-HHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYFMFLVEHVLTL 443
                                                                                                                                                                                                                                                                                                                                                                                                 HDHHDHSHSD-----SPSHSH-SIQDLS-----VGLSVLAGIVVFLLVEKLVRY 223
                                                                                                                                                                                                                                                                                                                                                                                                                        -----KQFKDKKKKNQKKPENDDD--VEIKKQLSKYESQLSTN 480
                                                                                                                                                                                                                                                                                                                                                                                                                                         224 VEENSSGSNTWCHHHHHHAGSKKLKDEGDHNNLDQQSSSDAIVNSSEKVSGGSTDKSLR 283
                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                  70
                                                                                                                                                                                                                                                                                      ---KLPEELAE------EEDMRLC------GFG--- 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. MEDITINES 51317086; PubMed=1335568; MEDITINE=93117086; PubMed=1335568; Hsich T.-S., Brown S.D., Huang P., Fostel J.; "Isolation and characterization of a gene encoding DNA topoisomerase I in Drosophila melanogaster.";
                                                                                                                                                                          Gaps
                                                                                                      N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                          .) (POTENTIAL).
                                                                                                                                                                        217;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Drosophila melanogaster (Fruit fly).

Rukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Meoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.

NCBI_TaxID=7227;
                                                                                                                                                     DB 1; Length 338;
                                                                                                                                                                        49; Mismatches 104; Indels
                                                                                                                                 07095C8B5BC01DAB CRC64;
                                                                                                                                                                                                     || || || DHVHH--HGGGCSHSH--DHDHDHDHPH------
                                                                                                                                                                                                                                                 -------VKKTTAKVEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                            EEKVDIDDRIEGYLRADS--QEPSHFDSQQPAVLE 513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4.1%; Score 165.5; DB 1
18.7%; Pred. No. 0.00022;
                                                                                                                         N-LINKED (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P30189; Q9VXW6;
01-APR-1993 (Rel. 25, Created)
01-APR-1993 (Rel. 25, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
DNA topolsomerase I (EC 5.99.1.2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AA
                                                                POTENTIAL. POTENTIAL.
                                    Transport; Transmembrane; Glycoprotein.
TRANSMEM 8 28 POTENTIAL.
                                                                                   HIS-RICH.
HIS-RICH.
                                                        POTENTIAL
                                                                                                                POLY-HIS.
        72108; AAL59930.1; -. IPR003689; Zn_transpt_zip. 2535; Zip: 1.
EMBL; AC012563; AAG52008.1; ALT_SEQ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                  36954 MW;
                                                                                                                                                             18.7%;
                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                               28
134
161
221
221
60
60
242
242
268
                           Pfam; PF02535; Zip;
                                                                                                                                  338 AA;
                                                                                                                                                              Similarity
                                                                                           161
                                                                                                                                                                       85;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOP1_DROME
                                                       TRANSMEM
TRANSMEM
TRANSMEM
                   InterPro;
                                                                                                                                                                                                            36
                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                      71
                                                                                                                                                                                                                                                                                                                           89
                                                                                                                                                                                                                                                                                                                                                               124
                                                                                                                                                                                                                                                                                                                                                                                  385
                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                        444
                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                      CARBOHYD
                                                                                                                         CARBOHYD
                                                                                                                                  SEQUENCE
                                                                                                                                                     Query Match
                                                                                                                                                               Best Local
                                                                                   DOMAIN
                                                                                                                DOMAIN
                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ŏ
                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                         δy
                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                             QΛ
                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                       δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                           QY
```

ă d ğ

```
Amanatides P.G., Scherer S.E., Id) F.W., Fevans C.A., Gocayne J.D., Amanatides P.G., Scherer S.E., Id) F.W., Hoskins R.A., Galle R.F., Gorayne J.D., Andrews P.G., Scherer S.E., Id) F.W., Hoskins R.A., Galle R.F., Gotayne J.D., Abanatides P.G., Scherer S.E., Richards S., Ashburner M., Henderson S.N., Batton G.G., Worthan J.R., Zandell M.D., Zhang Q., Chen L.X., Bardon R.C., Rogars Y. H.C., Blazej R.G., Champe M., Pfeiffer B.D., Randon R.C., Rogars Y. H.C., Blazej R.G., Champe M., Pfeiffer B.D., Bardon R.C., Baxter E.G., Helt G., Walson C.R., Mikhos G.L.G., Abril J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D., Ballew R.M., Basus A.P., Baxendala J., Bayraktarolyl L., Beasley B.M., Beeson K.Y., Basus A.P., Barman B.P., Bhandari D., Bolshakov S., Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P., Burtis R.C., Busam D.A., Bullec C., Davenport L.B., Davies P., Burtis R.C., Busam D.A., Bullec C., Davenport L.B., Davies P., Burtis R.C., Erraz C., Ferraz C., Ferriera S., Fleischman W., Fablas B., Delcher A., Deng S.M., Dodgon K., Doup L.B., Downes M., Duyan-Rocha S., Ploietz S.M., Poddon K.J., Ervangelista C.C., Ferraz C., Ferriera S., Fleischman W., Ralush F., Rangelista C.C., Ferraz C., Ferriera S., Fleischman W., Ralush F., Rarpen G.H., Kee Z., Gabriellan A.E., Garry L.J., Wallen P., Minnel B.E., Kodire C.D., Kraft C., Mortis J., Mosherson D., Mount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.K., Shork M., Moy W., Murphy B., Murphy L., Muzny D.M., Nelson D.K., Shork M., Moy W., Murphy B., Murphy L., Muzny D.M., Nelson D.K., Shork M., Wasakern D.R., Pacled F., Shor M., Shubs M., Shubs M., Shubs M., Wang X., Yonkodage T., Stapen G.H., Stupson M., Stupski M.P., Shu B., Shor Shub C., Staper E., Speraling A.C., Staper E., Worley K., Wu D., Yonker S., Williams S.M., Woodage T., Worley K., Wu D., Yonker S., Zhan M., Zhan S., Zhan S., Zhu S., Zhu S., Zhu S., Zhu S., Zhu S., Zhu 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MISCELLANBOUS: WHEN A TOPOISOMERASE TRANSIENTLY BREAKS A DNA BACKBONE BOND, IT SIMULTANBOUSLY FORMS A PROTEIN-DNA LINK, IN WHICH A TYROSYL OXYGEN IN THE BUXINE IS JOINED TO A DNA PHOSPHORUS AT ONE END OF THE ENTYEM-SEVERED DNA STRAND. SIMILARITY: BELONGS TO THE EUKARYOTIC TYPE I TOPOISOMERASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA, followed by passage and rejoining.
-!- MISCELLANEOUS: EUKARYOTIC TOPOISOMERASE I AND II CAN RELAX BOTH NEGATIVE AND POSITIVE SUPERCOILS, WHEREAS PROKARYOTIC ENZYMES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           for
                                                                                                                                                                                                                                 Shang C.X., Lee M.P., Chen A.D., Brown S.D., Hsieh T.-S.; "Isolation and characterization of a Drosophila gene essential early embryonic development and formation of cortical cleavage
Nucleic Acids Res. 20:6177-6182(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RELAX ONLY NEGATIVE SUPERCOILS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-Berkeley;
MEDLINE-20196006; PubMed-10731132;
                                                                                                                                                 STRAIN=Oregon-R;
MEDLINE=96354910; PubMed=8769417;
                                                                                                                                                                                                                                                                                                                                                                                                                                J. Cell Biol, 134:923-934(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                    SEQUENCE FROM N.A.
```

```
15-SEP-2003 (Rel. 42,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local 8
                                                                                                                                                                  domains
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Loc
Matches
   δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ØΣ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ΩŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                           22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               446
                                                                                                                                                                                                                                                                                                                                                                                            66 SNSSSSSKEHKSSSRDKDR----HKSSSSSSKHRDKDKERDGSSNSHRSGSSSHKD-K 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       298 IDARSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISF-LSLLGVILVPLMNRVFFKF 356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          329 DVPLAMRKRKQEATDRPDGGMDNDDDDDIPLLARKKVKKERIKKESKEKSKRKRVKEEPSD 388
                                                                                                                                                                                                                                                                                                                               68 NSLSVE--GFRKLLQNIGIDKIKRIHIHHDEDHHSDHEHHSDHERHSDHEHHS-DHEHHS 124
                                                                                                                                                                                                                                                                                                                                                                         125 DHDHHSHHNHAASGKNKRKALCPDHDSDSSG-----KDPRNSQGKGAHRPEHASGRRNVK 179
                                                                                                                                                                                                                                                                                                                                                                                                                   180 DSVSASEVTSTVYNTVSEGTHFLETIETPRRGKLFPKDVSSST--PPSVTSKSRVSRLAG 237
                                                                                                                                                                                                                                                                                                                                                                                                                                       DGSSSSKHKS-----SSGHHKRSSKDKERRDKDKDRGSSSSSRHKSSSSSRDKERSSSS 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                             238 RKINESVSEPRKGFMYSRNTNENPQECFNASKLLISHGMGIQVPLNATEFNYLCPALINQ 297
                                                                                                                                                                                                                                                                                                                                            ----FKDKKKKNQKKP----ENDDDVEIK------KQLSKYESQLSTNEEKVD
                                                                                                                                                                                                                                                                                  4.0%; Score 161.5; DB 1; Length 972;
19.7%; Pred. No. 0.0017;
Live 79; Mismatches 162; Indels 179; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LLSFLVALAVGTLSGDAFLHLLPHSHASHHHSHSHEPPAMEMKRGPLFSHLSSQNIEESA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           417 YFDSTWKGLTALGGLYFM------FLVEHVLTLIKQ------
                                                  Figures: Region 10424; Topl. GO; GO:0005737; C:cytoplasm; IDA. GO; GO:0005737; C:cytoplasm; IDA. GO; GO:0009795; P:embryonic morphogenesis; IMP. GO; GO:0002168; P:embryonic morphogenesis; IMP. GO; GO:0007292; P:cogenesis; IMP. InterPro; IPR001631; Topismerse_I.
                                                                                                                                                                                                         SER-RICH.

DNA CLEAVAGE (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ---SSKDHPSYDGVFVKPEPVSQQLMHSG----SVDAFQMQQLG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  486 TDDRIEGYLRADSQEPSHFDSQQPAV------LEEEEV 517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DYGNVKPKKKKKKKEP-----EPAVSPGKRQKAKAKVEEEEV 425
                                                                                                                                                                                                                             S -> H (IN REF. 3).
S -> SSS (IN REF. 3).
H -> Q (IN REF. 3).
V; 3764BBDDEEFA3OCD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   174 HKSSSSSSSKSKHSSSRHSSSS------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HYPB_BRAJA

ID HYPB_BRAJA STANDARD; PRT; 302 AA.

C 045357; DT 01-NOV-1997 (Rel. 35, Created)

DT 28-FFB-2003 (Rel. 41, Last sequence update)
                                                                                                                             Pfam; PF02919; Topoisomer_I_N; I.

Pfam; PF01028; Topoisomerase_I; I.

PRINTS; PR00416; EUTPIENRASEI.

SMARI; SM00435; TOPBIC; I.

PROSITE; PS00176; TOPDISOMERASE_LEUK; I.

Isomerase; Topoisomerase; DNA-binding.
                                                                                                                                                                                                 POLY-HIS
         EMBL; U80064; AAC24158.1; -.
EMBL; AE003498; AAF48440.1; -.
PIR; S35521; S35521.
                                                                                                                                                                                                                                                               111688 MW;
                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 19.77
Matches 103; Conservative
                                                                                                                                                                                                                                                    201
972 AA;
                                                                                                                                                                                                                  ACT_SITE
CONFLICT
                                                                                                                                                                                                                                                                                                                                                   σ
                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  357
                                                                                                                                                                                                                                         CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       389
                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                               DOMAIN
δŽ
                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                            Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                         QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ΩŽ
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         165 GAHRPEHASG------RRNVKDSVSASEVISTVYNIVSEGIHF-----LETIEIPR 209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           128 SELKDSFAIGVIEGDQQTSNDAERIRATGVPAIQVNT-GKGCHLDAAMVGEAYDRLPWLN 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 210 PGKLFPKDVSSSTPPSVTSKSRVSRLAGRKTNESVSEPRKGFMYSRNTNENPQECFNASK 269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                187 GGLLFIENVGNLVCPAAFDLGEACKIVVFSTTEGEDKPLK------YPDMFAASS 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      270 LLTSHGMGIQVPLNATEFNYLCPAIINQIDARSC----LIHTSEKKAEIPPKTYSLQI-- 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        --- DSDSSGKDPRNSQGK 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           70 KIAGMSSDRIIQVERDILGKNDR--LAADNRARFRADEVLAFNLVSSPGAGKTSLLVRAV 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN-USDA 110;

BEDLINE-ZA84898; PubMed=12597275;

Kaneko T., Nakamura Y., Sato S., Minamisawa K., Uchiumi T.,

Kasamoto S., Watanabe A., Idesawa K., Iriguchi M., Kawashima K.,

Kohara M., Matsumoto M., Shimpo S., Tsuruoka H., Wada T., Yamada M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                               "Nucleotide sequences of two hydrogenase-related genes (hypA and hypB) from Bradyrhizobium japonicum, one of which (hypB) encodes an extremely histidine-rich region and guanine nucleotide-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3.9%; Score 157; DB 1; Length 302;
21.4%; Pred. No. 0.00074;
ative 27; Mismatches 101; Indels 118;
                                                                                                 Bradyrhizobium japonicum.
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    92 ІННОНОННЯОНЕННЯОНЕКНЯОНЕННЯОНЕННЯННЯННЯВАЗ---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A -> T (IN REF. 1).
; D3B5F54F24AB90AA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ---GKNKRKALCPDH------
                               Hydrogenase nickel incorporation protein hypB
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       iochim. Biophys. Acta 1184:135-138(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Metal-binding; Nickel; Complete proteome.
DOMAIN 16 54 HIS-RICH.
                                                                                                                                                                   Bradyrhizobiaceae; Bradyrhizobium.
                                                                                                                                                                                                                                                                                                        STRAIN=USDA 110;
MEDLINE=94137733; PubMed=8305450;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; L24513; AAA17763.1; --
EMBL; AP005960; BAC52196.1; --
InterPro; IPR004392; HypB.
InterPro; IPR002894; HypB_UreG.
Pfam; PF01495; HypB_UreG; II
TIGRFAMS; TIGR0073; hypB; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    302 AA; 32708 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         67; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                     SECUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                      C., Maier R.J.
                                                                                                                                                                                                          NCBI_TaxID=375;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δŽ
```

us-09-642-034-5.rsp

```
NCBI_TaxID=197;
                                                                                                                                                                                                                                                                                                                                                                                          ZUPT OR CJ0263
                                                                                                                                                                                                                                                                                                           ZUPT_CAMJE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Transport;
                                                                                                                                                                                                                                           285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TRANSMEM
                                                                                                                                                                                                                                                                                                                         O9PIN2;
                                                                                                                                                                                                                                                                                               ZUPT_CAMJE
                                                                                                                                                                                                                                                                                  RESULT 14
                                                       δŻ
                                                                               g
                                                                                                          δλ
                                                                                                                                 g
                                                                                                                                                            QΥ
                                                                                                                                                                                     g
                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
----LINKIDLASVLDFDLARTIEYARRVNPKIEVLTLSA 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Whole-genome random sequencing and assembly of Haemophilus influenzae
                                                                                                                                                                                                                                                                                    MEDLINE-BG / KNGZ N. A. ACC 51907;

MEDLINE-95350630; PubMed=7542800;

MEDLINE-95350630; PubMed=7542800;

MEDLINE-95350630; PubMed=7542800;

MELIANDER R. Adams M.D., White O., Clayton R.A., Kirkness E.F., Rerlayage A.R., Bult C.J., Tomb J.-F., Dougherty B.A., Merrick J.M., McKenney K., Sutton G., Fitzhugh W., Fields C.A., Goosayne J.D., Soctt J.D., Shirley R., Liu L. T., Glodek A., Kelley J.M., Weidman J.F., Phillips C.A., Spriggs T., Hedblom E., Cotton M.D., Utterback T.R., Hanna M.C., Nguyen D.T., Saudek D.M., Brandon R.C., Gnebm C.L., McDonald L.A., Small K.V., Fraser C.M., Smith H.O., Wenter J.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HIGH-AFFINITY ZINC UPTAKE SYSTEM PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF01297; SBP_bac_9; 1.
Transport; Periplasmic; Zinc transport; Zinc; Metal-binding; Signal;
                                                                                                                                                                                                                            Bacteria; Proteobacteria; Gammaproteobacteria; Pasteurellales; Pasteurellaceae; Haemophilus.
                                                                                                                                            01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
High-affinity zinc uptake system protein znuA precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3DBB45AB8F06FFCB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZINC (BY SIMILARITY).
ZINC (BY SIMILARITY).
ZINC (BY SIMILARITY).
                                                                                                                     337 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HIS-RICH
                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZNUA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IPR006127; SBP_bac_9.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     37659 MW:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; U32698; AAC21794.1; -. PIR; D64049; D64049.
                          ---AWV 326
                                                   274 RIGEGFAAFYAWI 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Science 269:496-512(1995).
                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              163
57
171
235
                                                                                                                                                                                                                Haemophilus influenzae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     235
337 AA;
                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Complete proteome,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             115
57
171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24
                                                                                                                                                                                                                                                      NCBI_TaxID=727;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FIGR; HI0119; -
                                                                                                                                                                                                  ZNUA OR HI0119
-WI
                                                                                                                   ZNUA_HAEIN
P44526;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro;
                        324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
                                                                                                        ZNUA_HAEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CHAIN
g
                        \nabla
                                                 g
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                 111 LSKAHHEHFHEDGDHDHDHKHEHKHDHKHDHDHDHKHEHKHDHEHHDHDHHEGLTTNW 170
                                                                                                                                                                                                                                                                     135 -----HDSDSSGKDPRNKRKALCPD------HDSDSSGKDPRNSQGKG 165
                                                                                                                                                                                                                                                                                                                               171 HVWYSPAISKIVAQKVADKLIAQFPDKKALIAQNLSDFNRTLAEQSEKITAQLANVKDKG 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                231 FYVFHDAYGYFN-----DAYGLKQTGYFTINPLVAPGAKTLAHIKEEIDEHKVNCLFAE- 284
                                                                                                                                                                                                                                                                                                                                                                                                   166 AHRPEHASGRRNVKDSVSASEVTSTVYNT----VSEG----THFLETIETPRPGKLFPKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  reveals hypervariable sequences.";
Nature 403:665-668(2000).
-!- FUNCTION: Mediates zinc uptake. May also transport other divalent
                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
STRAIN=NCTC 11168;
MEDLINE=20150912.

Parkhill J., Wren B.W., Mungall K., Ketley J.M., Churcher C.,
Basham D., Chillingworth T., Davies R.M., Feltwell T., Holroyd S.,
Jagels K., Karlyshev A.V., Moule S., Pallen M.J., Penn C.W.,
Quail M.A., Rajandream M.A., Rutherford K.M., van Vliet A.H.M.,
Whitehead S., Barrell B.G.;
"The genome sequence of the food borne pathogen Campylobacter jejuni
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Campylobacter jejuni.
Bacteria; Proteobacteria; Epsilonproteobacteria; Campylobacterales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          58;
                                                                                                                                        84 IDKIKRIHIHH--DHDHHSDHEHHSDHERHSDHEHHSDHEHHSDHDHHSHHNH-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Transmembrane; Complete proteome.
          Length 337;
                                                                       Indels
                                                                    83;
   3.8%; Score 154; DB 1;
25.7%; Pred. No. 0.0014;
iive 15; Mismatches 83;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
21nc transporter zupr.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 291 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 218 VSSSTPPSVTSKSRVSRLAGRKTNESVSEP 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----PQFTPKVIESLAKNTKVNVGQLDP 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           POTENTIAL. POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            POTENTIAL. POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Zn_transpt_Zip.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Campylobacteraceae; Campylobacter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AL139074; CAB72731.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             transport;
Query Match 3.89
Best Local Similarity 25.79
Matches 54; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR003689; Zn
Pfam; PF02535; Zip; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2224
2224
2224
2224
2224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HAMAP; MF_00548; -; 1.
InterPro; IPR003689; 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F81444; F81444.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zinc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PART THE THE TENT OF THE PROPERTY OF THE PROPE
```

Š

g δ g ğ q

```
<u>-</u>-
        Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
B. George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
RA Brandon R.C., Rogers Y.T.H.C., Blazef, R.G., Champe M., Pfeiffer B.D.,
RA Brandon R.C., Rogers Y.T.H.C., Blazef, R.G., Champe M., Pfeiffer B.D.,
RA Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
Ballew R.M., Basu A., Barman B.P., Bhandari D., Bolshakov S.,
RA Ballew R.K., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,
RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Burtis K.C., Braman D.A., Dahlke C., Davenport L.B., Davies P.,
RA Burtis K.C., Braman D.A., Butler H., Cadieu E., Center A., Chandra I.,
Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Burtis K.J., Evangelista C.C., Ferraz C., Ferriera S., Fleischmann W.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Rennison J.A., Retchum K.A.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Jalali M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A.,
Alasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
Martei B., McIntosh T.C., McLeod M.P., McPherson D.,
RA Merkulow G., Milshina N.Y., Mobarry C., Morleson D.,
RA Merkulow G., Milshina N.Y., Mobarry C., Morleson D.,
RA Merkulow G., Milshina N.Y., Mobarry C., Puris V., Paesse M.G.,
Rador D.R., Pittman G.S., Pan S., Pollard J., Puri V., Persee M.G.,
                                                                                                                                                          574 HPHSHSQRYSREELKDAGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVF 633
                                                                                                                                                                                              634 CHELPHELGDFAVLLKAGMTVKQAVLXNALSAMLAYLGMATGI-----FIGHYAENVSMW 688
                                                                                                                                                                                                                                                                                                                     185 IHNIPEGLAVSLPIYHATGDKKKAFIYSALSGFAEPLGAFVGALILLPFIGDLTLAIS-- 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Drosophila doublesex gene controls somatic sexual differentiation by producing alternatively spliced mRNAs encoding related sex-specific polypeptides."; cell 56:997-1010(1989).
                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                            689 IFALTAGLEMYVALVDMVPEMLHNDASDHGCSRWGYFFLQNAGMLLGFGIMLL 741
                                                                                                                                                                                                                                                                                                                                                                                                          ||: ||: :::| :::| 243 -FAVIAGINVEISLDELLPAAKTYDKAHDSL------YGLIAGMAIMAL 284
                                                                                                           23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota; Mopfera; Endopterygota; Diptera; Brachycera; Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
                                                         DB 1; Length 291;
                                              Ouery Match 3.7%; Score 147.5; DB 1; Length Best Local Similarity 25.4%; Pred. No. 0.0033; Matches 44; Conservative 32; Mismatches 74; Indels
291 AA; 31462 MW; 35A0E51E408E1CF2 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. (ISOFORMS FEMALE AND MALE).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P23023; P23022; Q9VHYO; 01-WOV-1991 (Rel. 20), Created) 01-WOV-1991 (Rel. 20), Last sequence update) 15-SEP-2003 (Rel. 42, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               549 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Drosophila melanogaster (Fruit fly).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. (ISOFORM MALE).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE-Larva, and Pupae;
MEDLINE-89168451; PubMed=2493994;
Burtis K.C., Baker B.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Doublesex protein.
DSX OR CG11094.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-Berkeley;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DSX DROME
                                                                                                                                                                                                               130
  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 15
DEX_DROME
DEX_DROME
DE 01-NO
DET 01-
```

```
Titalisase: Fig0000504; dsx.

Reconstruction factor activity; NAS.

Reconstruction factor activity; NAS.

Reconstruction factor activity; NAS.

Reconstruction factor activity; NAS.

Reconstruction behavior: NAS.

Reconstruction factor activity; NAS.

Reconstruction behavior: NAS.

Reconstruction factor activity; NAS.

Reconstruction factor activity; NAS.

Reconstruction factor activity factor activity; NAS.

Reconstruction factor activity fac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
Relnert K., Remington K., Saunders R.D.C., Scheeler F., Shen H., Shue B.C., Siden-Klamos I., Simpson M., Skupski M.P., Smith T., Spler E., Spradling A.C., Stapleton M., Strong R., Sun E., Svirskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X., Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J., Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao, Q.A., Yeh R.-F., Zaveri J.S., Jan M., Zhang G., Zhao Q., Zheng X.H., Zhong F.N., Zhou W., Zhou X., Zhu S., Smith H.O., Glbbs R.A., Myers E.W., Rubin G.M., Venter J.C.; The Growen sequence of Drosophila melanogaster.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-91330881; PubMed=1907913;
Burtis K.C., Coschigano K.T., Baker B.S., Wensink P.C.;
The doublesex proteins of Drosophila melanogaster bind directly to a sex-specific yolk protein gene enhancer.";
EMBO J. 10:2577-2582(1991),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FUNCTION: CONTROLS SOMATIC SEXUAL DIFFERENTIATION. BINDS DIRECTLY AND SPECIFICALLY TO THE BUHANCER FBE (FAT BODY SHRANDER) OF THE YOLK PROTEIN 1 AND 2 GENES (FP1 AND F92). THIS ENHANCER IS SUFFICIENT TO DIRECT THE FEMALE-SPECIFIC TRANSCRIPTION CHARACTERISTIC OF THE YP GENES IN ADULT FAT BODIES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE-93178426; PubMed-8440242;
Erdman S.E., Burtis K.C.;
"The Prosophila doublesex proteins share a novel zinc finger related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VSP_001322;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ISOId=P23023-2; Sequence=VSP_001321, VSP_001322
-!- MISCELLANEOUS: EXPERIMENTALLY SHOWN TO BIND ZINC.
-!- SIMILARITY: Contains 1 DM domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Event=Alternative splicing; Named isoforms=2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IsoId=P23023-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA-BINDING DOMAIN, AND MUTAGENESIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SMART; SM00301; DM; 1.
PROSITE; PS40000; DM_DOMAIN_1; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; M25292; AAA17840.1; --
EMBL; M25293; AAA17841.1; --
EMBL; M25294; AAA17842.1; --
EMBL; AE003676; AAF54168.1; --
PIR; A32372; A32372.
PIR; B32372; B32372.
PDB; 1LPV; 02-007-02.
TRANSFAC; T00955; --
TRANSFAC; T00956; --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA binding domain.";
EMBO J. 12:527-535(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Name=Female;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Name=Male;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA-BINDING.
```

```
8;
                                                                                                                                                                                                                                                                                                                                                           345
                                                                                                                                                                                                                                                                                                                                           114 HEH-------HSDHEHHSDHDHHSHHNHAASGKNKRRAL-CPDHDSDSSGRDP- 158
                                                                                                                                                                                                                                                                                                                                                                                          159 RNSQGKGAHRPEHASGRRNVKDSV-----SASEVTSTVYNTVSEGTHFLETI 205
                                                                                                                                                                                                                                                                                                                                                                                                       90 IHIHHDHDHHSDHEHHSDH------ERHSD 113
                                                                                                                                                                                                                                                                                                             206 ETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKTNESVSEPRKGFMYSRNTNENPQECF 265
                                               DM.
HIS-RICH.
SHRYGLY-RICH.
ARVEINRYVAQIYYNYTPMALVNGAPMYL -> GQYVVNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                        3.6%; Score 146; DB 1; Length 549;
21.0%; Pred. No. 0.0097;
tive 21; Mismatches 96; Indels 98; Gaps
                                                                                               YSRQHNLNIYDGGELRNTTRQCG (in isoform
PROSITE; PS50809; DM_DOMAIN_2; 1.
Sexual differentiation; Alternative splicing; DNA-binding;
Transcription regulation; Nuclear protein; Zinc; Metal-binding;
                                                                                                                              MISSING (In 180form Female).
//FIG4VSP_001323.
(--A,H ABOLISHES DNA-BINDING.
H-Y: ABOLISHES DNA-BINDING.
H-Y: ABOLISHES DNA-BINDING.
C-DY: ABOLISHES DNA-BINDING.
C-Y: ABOLISHES DNA-BINDING.
(--Y: ABOLISHES DNA-BINDING.
R-Q: ABOLISHES DNA-BINDING.
R-Q: ABOLISHES DNA-BINDING.
M; 3C1B92724B4CE083 CRC64;
                                                                                                         Female).
/FTId=VSP_001321.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    266 NASKLLTSHGMGIQVPLNATEFNYLCPAIINQ 297
                                                                                                                                                     47
50
59
68
68
70
70
67
81
87
                                                                                                                                                                                                                                               Query Match 3.6%
Best Local Similarity 21.0%
Matches 57; Conservative
                                               91
224
296
427
                                                                                                                                549
                                                                                                                                                                                                                         549 AA;
                                               44
119
267
398
                                   3D-structure.
DNA_BIND 44
DOMAIN 1119
DOMAIN 267
VARSPLIC 398
                                                                                                                                                                                       MUTAGEN
MUTAGEN
MUTAGEN
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             346
                                                                                                                                VARSPLIC
                                                                                                                                                     MUTAGEN
MUTAGEN
MUTAGEN
   g
                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                              Qγ
                                                                                                                                                                                                                                                                                                                                                                                           δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                        δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δŽ
                                                                                                                                                                                                                                                                                                δŽ
```

Search completed: September 12, 2003, 22:14:45 Job time : 33 secs

Run on:

Title:

```
Q96bb3 homo sapien
Q94ug drosophila
Q84tg3 mus musculu
Q96sm9 homo sapien
Q95xa5 macaca fasc
Q96nn4 homo sapien
Q97kt8 homo sapien
Q97xc4 homo sapien
Q9xc4 homo sapien
Q9xc4 homo sapien
                                                                                                                                                                   081490 caenorhabdi
091354 caenorhabdi
081366 arabidopsis
096mi3 homo sapien
096110 homo sapien
         Q91w10 mus musculu
Q9c0k1 homo sapien
Q9d5v4 mus musculu
Q9d426 mus musculu
                                                                                                                                                                                                                      Q8xx89 ralstonia s
                                                                                                                                                                                                                              Q9nsa4 homo sapien
Q8aw42 brachydanio
                                                                                                                                                                                                                                                09utl1 schizosacch
08i142 plasmodium
096h72 homo sapien
                                                                                                                                          Q9xx22 homo sapien
Q22395 caenorhabdi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MARKLSVILILTFALSVTNPLHELKAAAFPQTTEKISPNWESGINVDLAISTRQYHLQQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
Q8nc35 homo
                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID-9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 98.6%; Score 3969; DB 4; Length 749; Best Local Similarity 99.2%; Pred. No. 5.8e-307; Matches 749; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1996 (TrEMBLrel. 01, Created)
01-UNN-2001 (TrEMBLrel. 17, Last sequence update)
01-MR-2003 (TrEMBLrel. 23, Last annotation update)
Estrogen regulated LIV-1 protein.
                                                                                                                                                                                                                                                                                                                                             749 AA
                                                                                                                                                                                                                                                                                               ALIGNMENTS
                            Q9D5V4
Q9D5V4
Q9D8B3
Q9VU19
Q8BTQ3
Q9VCN19
Q9GSM3
Q9GNN4
Q9GNN4
Q9GNN4
Q9GNN4
Q9GNN4
                                                                                                                                          Q9xvr4
Q9ux22
Q22395
Q814G0
Q9u354
Q8H9F6
Q96MI3
Q96LF0
                                                                                                                                                                                                                              Q9NSA4
Q8AW42
                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                           16
                                                                                                                                                                                         10
                                                                                                                                                                                                                               13
                                                                                                                                 11
                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens (Human).
8.7.7.2.4.0
6.1.2.4.0
596
586.5
586.5
580.5
580.5
573
573.5
573.5
573.5
573.5
573.5
396.5
396.5
396.5
396.5
397.5
397.5
397.5
                                                                                                                                                                                                                                                                                                                                                       013433;
                                                                                                                                                                                                                                                                                                                                             013433
                                                                                                                                                                                                                                                                                                                                    013433
 ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q13433 homo sapien
Q8c145 mus musculu
Q8r518 mus musculu
Q8rxx3 homo sapien
Q96hp5 homo sapien
Q9bx42 mus musculu
Q9va17 drosophila
Q9cxv2 macaca fasc
Q8c012 mus musculu
Q8n6y3 homo sapien
                                                                          (without alignments)
2213.974 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                       1 MARKLSVILILTFALSVTNP......FGIMLLISIFBHKIVFRINF 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Description
                                                                September 12, 2003, 21:52:06; Search time 88 Seconds
         GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd
                                                                                                                                                                                        of hits satisfying chosen parameters:
                                                                                                                                                                      830525 segs, 258052604 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUMMARIES
                                                                                                                                                                                                                                                Maximum Match 100%
Listing first 45 summaries
                                              - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             013433
080145
0801883
081883
080185
080185
080817
090817
090817
080012
080012
080012
080013
080013
080013
                                                                                                                                                   Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                     sp_vertebrate:*
sp_unclassified:*
                                                                                                                                                                                                                                                                                                                           sp_invertebrate:*
                                                                                                                                                                                                                                                                                                                                                                                                                      sp_rvirus:*
sp_bacteriap:*
sp_archeap:*
                                                                                                                                                                                                                                                                                     sp_archea:*
sp_bacteria:*
sp_fungi:*
                                                                                                                                                                                                                                                                                                                                                      sp_organelle:*
                                                                                                                                                                                                           Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                          sp_plant:*
sp_rodent:*
                                                                                                                                                                                                                                                                                                                                                                                             sp_virus:*
                                                                                                                                                                                                                                                                                                                                    sp_mammal:*
sp_mhc:*
                                                                                                     US-09-642-034-5
                                                                                                                                                                                                                                                                                                                                                                  sb_bhage:*
                                                                                                                                                                                                                                                                                                                 sp_human:*
                                                                                                                                                                                                                                                                             SPTREMBL_23:*
                                                                                                                                            BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3969
3542
2533.5
2223.5
2223.0
1337
1337
787.5
734
657.5
652.5
652.5
652.5
652.5
652.5
652.5
                                                                                                               Perfect score:
                                                                                                                                           Scoring table:
                                                                                                                                                                                          rotal number
                                                OM protein
                                                                                                                                                                                                                                                                            Database :
                                                                                                                         Sequence:
                                                                                                                                                                      Searched:
```

61 FYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHHDHDHHSDHEHHSDHERHSDHEHHSDH 120

61 FYRYGENNSLSVEGFRKILQNIGIDKIKRIHIHHHDHDHHSDHEHHSDHERHSDHEHHSDH

g

Result . 양

g Qγ

Q9d909 mus musculu Q8vd10 mus musculu Q15043 homo sapien Q9y3z1 homo sapien

9

9

~

```
530 EYVPRGCKNKCHSHFHDTLGQSDDLIHHHHDYHHILLHHHHQNHHPHSHSQRYSREELKD 589
                                                                                                                                                                                                                                                                                                                                                                                                                     599
                                                                                                                                                                                                                                                                                                                                                                                                                                              649
                                                    232
                                                                                                     290
                                                                                                                                                                  299
                                                                                                                                                                                          349
                                                                                                                                                                                                                                          409
                                                                                                                                                                                                                                                                  419
                                                                                                                                                                                                                                                                                            469
                                                                                                                                                                                                                                                                                                                  479
                                                                                                                                                                                                                                                                                                                                            LSKYESQLSTNEEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYN 529
                                                                                                                                                                                                                                                                                                                                                                    539
LFYRYGENDSLSVBGFRKLLQNIGIDKIKRVHIHBHBADHEHHSDHEHHSDHEHHSD 120
                                     HEHHSDHEHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHAS 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 an endoplasmic reticulum transmembrane protein, contains the
                                                                                                                                                                                                                                                                                                                                                         240 RLSRLARKKSNESVSEPRKSFMYSRNTNDNIQECFNTTKLLFSHGMSIQALLNATEFNYL
                                                                                                                                                                                                        QNIEESSYEDSTWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDEDVESKKQ
                                                                                                                                                                                                                                                                                                                                                                                                           590 AGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLK
                                                                                                                                                                                                                                                                                                                                                                                                                                                            --SRLAGRKTNESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYL
                                                                                                                                                                                          CPAIINQIDARSCLIHT-SEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPIM
                                                                                                                                                                                                                                             NRVFFKFLLLSFLVALAVGTLSGDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFSHLSS
                                                                                                                                                                                                                                                                                             QNIEESAYFDSTWKGLTALGGLYFWFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQ
                                                                                        GRRNVKDSVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ERMELIN.
Mus musculus (Mouse).
Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBL_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               710 LHNDASDHGCSRWGYFFLQNAGMLLGFGIMLLISIFEHKIVFRINF 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL, AB071697; BAB86300.1; -. MGD, MGI:2147279; Ermellin. Mincarpo, IPR003689; zn_transpt_Zip. Pfo2535; zlp; 1. SEQUENCE 505 AA; 56811 MW; E2678E8BDFEZBF2F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-JUN-2002 (TrEMBLrel. 21, Created)
01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
01-MR-2003 (TrEMBLrel. 23, Last annotation update)
Endoplasmic reticulum membrane protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               novel HELP domain conserved in eukaryotes.";
Gene 284:31-40(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  [1]
SQUENCE FROM N.A.
MEDLINE=21888618; PubMed=11891044;
Suzuki A., Endo T.; ... - ... ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Ermelin,
                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                         233
                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                             350
                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                             410
                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                             470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                        114
                                                                121
                                                                                        174
                                                                                                                                                                                            291
              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q8R518
Q8R518;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q8R518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QΫ
                                                                                                                                                                                                                                                                                                                 D,
                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                               δy
                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                              QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                \Omega Y
                                                                                                                                                                염
                                                                                                                                                                                          δ
                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                             δŏ
                                                                                                                                                                                                                                                                 원
                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                             QY
                                 ã
                                                          g
                                                                                       õ
                                                                                                           9
                                                                                                                                         ă
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60 LEYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHH-----DHDHHSDHEHHSDHERHSD 113
                                                                                                                                                                                                                                                                                                                                                                                               720
                                                                                                                                           420
                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                              009
                                                                                                                                                                                                                                                                                                                                              099
                                                      RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPIMNRVFFKFLLSF 360
                                                                                                                 354
                                                                                                                                                           TWKGLTALGGLYFWFLYEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTN 480
                                                                                                                                                                                                          534
                                                                                                                                                                                                                                                                                                                     594
                                                                                                                                                                                                                                                                                                                                                                       654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              οĘ
                                                                                                                                                                                                                                                                                                                                                            EEKVDIDDRIEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKC
                                                                                                                                                                                                                                                           HSHFEDTLGOSDDLIHHHHDYHHILHHHHHQNHHPHSHSQRYSREELKDAGVATLAWWVI
                                                                                                                                                                                                                                                                                                             HSEFENDTLGOSDDLIEHHHDYHEILHHHHHGONHPHSESQRYSREELKDAGVATLAWWYI
                                                                                                                                                                                                                                                                                                                                             MGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLY
                                                                                                                                                                                                                                                                                                                                                                                                NALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVDMVPEMLHNDASDHGCS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MARKLSVILILTFALSVINPLHELKA-AAFPQTTEKISPNWESGINVDLAISTRQYHLQQ
                 SVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT
                                         NESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDA
                                                                                                         RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF
                                                                                                                                           LVALAVGTLSGDAFLHLLPHSHASHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDS
    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
SEROISHOED STRIN-CSTBL/65; TISSUE-SKin;
MEDLINE-223546683; PubMed-12466851;
The FANTOM CONSORTHUM,
the RIKEN Genome Exploration Research Group Phase I & II Team;
Analysis of the mouse transcriptome based on functional annotation 60,770 full-length cours.;
Nature 420:563-573(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Buteleostomi;
Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL, AKO28976; BAC2623.1; -. SEQUENCE 765 AA; 86380 MW; C8938B9C3371377B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Bstrogen regulated LIV-1 protein homolog.
Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 3542; DB 11;
Pred. No. 5.6e-273;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               REGYFFLONAGMLLGFGIMLLISIFEHKIVFRINF 749
                                                                                                                                                                                                                                                                                                                                                                                                                                                RWGYFFLONAGMLLGFGIMLLISIFEHKIVFRINF 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 44; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       88.0%;
86.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 666; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                     475
                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                        655
                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        715
                                                                                                                                                                   355
                                                                                                                                                                                                                                                                                                                      535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Match
                                                                  235
                                                                                           301
                                                                                                                   295
                                                                                                                                           361
                                                                                                                                                                                            421
                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q8C145
Q8C145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q8C145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ğ
                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                   අ
                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                ă
                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                셤
                                                                                         δŽ
                                                                                                                g
                                                                                                                                         QΥ
                                                                                                                                                                                            Q
                                                                                                                                                                                                                   D
                                                                                                                                                                                                                                             QΩ
                                         δ
```

240 575 300

 \sim

```
ELPHELGDFAVLLKAGMTVKQAVLYNALSAMLAYLGMATGIFIGHYAENVSMWIFALTAG 695
                       121 MEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYFWFLYEHTUTLIKOFKDKKKKNO 180
                                                                                                                                                                                                                                                    434 MFLVEHVLTLIKQFKDKKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEKVDTDDRTEGY 493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LIHHHHDYHHILHHHHQNHHPHSHSQRYSREELKDAGVATLAWMVIMGDGLHNFSDGLA 613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLYNALSAMLAYLGMA 673
 MEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQ
                                                                                                 EVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQSDDLIHHHDYHHILHHHHHQNHHP
                                                                                                                                                                            EVMIAHAHPQEVYNETVPRGCKNKCHSHFHDTLGQSDDLIHHHHDTHHHHPP
                                                                                                                                                                                                                                HSHSQRYSREELKDAGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQSDD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 FLHILPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KKPENDDDVEIKKQLSKYESQLSTNEEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     374 FLHLLPHSHASHHHSHSHEBPAMEMKRGPLFSHLSSQNIEBSAYFDSTWKGLTALGGLYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia; Eutheria, Primates, Catarrhini, Hominidae, Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 382;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        382 AA; 43404 MW; AE4AE1C04401CDBC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Hypothetical protein (Fragment).
Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          51.1%; Score 2057; DB 4; I 100.0%; Pred. No. 3.1e-155; Live 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Strausberg R.;
Submitted (MAY-2001) to the EMBL/Geni
MBL; BC008317; AAH08317.1;
InterPro: IPR003689; Zn_transpt_zip.
Pfam; PF02535; Zip; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                51.1.
100.0%; Pic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity 100. es 382; Conservative
                                                                                                                                                                                                                                                                                                                                                                                 LEMYVALVDMV 706
                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               [1]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE-Eye;
 396
                                                                                                                                                       516
                                                                                                                                                                                          241
                                                                                                                                                                                                                              216
                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                          989
                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                           456
                                                                                                                                                                                                                                                                                                                                                                                 969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q96HP5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q96HP5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                               6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ă
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
 Š
                           g
                                                                         δy
                                                                                                       g
                                                                                                                                           δŽ
                                                                                                                                                                                                                              ζ
                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                        QY
                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22
                                       ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                           310
                                                                                                                                                   311 KAEIPPKTYSLQIAWVGGFIAISIISFLŞLLGVILVPLMNRVFFKFLLSFLVALAVGTLS 370
                                                                                                                                                                                        120
                                                                                                                                                                                                                              430
                                                                                                                                                                                                                                                LYPMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEKVDTDDRT 490
                                                                                                                                                                                                                                                                                                                                                                                 550
                                                                                                                                                                                                                                                                                                                                                                                                       SDDLIHHHHDYHHILHHHHHQNHHPHSHSQRYSREELKDAGVATLAWMVIMGDGLHNFSD 610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLYNALSAMLAYL 670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GMATGIFIGHYAENVSMWIFALTAGLFMYVALVDMVPEMLHNDASDHGCSRWGYFFLQNA 730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MGIQVPLNATEFNYLCPAIINQIDARSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISII 335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SFLSLLGVILVPLMNRVFFKFLLSFLVALAVGTLSGDAFLHILLPHSHASHHHSHSEPA 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   09
                                                                                                                                                                                                                                                                                                                          GDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGG
                                                                                                                                                                                                                                                                                                                                                                                 EGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQ
                                                                         MYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDARSCLIHT-SEK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                       ÷
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
 DB 11; Length 505;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 433;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                       14; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Strausberg R.; Submitted (NOV-2002) to the EMBL/GenBank/DDBJ databases. EMBL; BC039498; AAH39498.1; .. SEQUENCE 433 AA; 48605 MW; 72B8B90BD0A1867B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-WAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Similar to LIV-1 protein, estrogen regulated.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    56.7%; Score 2280; DB 4; I
100.0%; Pred. No. 6.6e-173;
ive 0; Mismatches 0;
63.0%; Score 2533.5; DB 1 94.5%; Pred. No. 5.5e-193;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A.
                                     13; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GMLLGFGIMLLISIFEHKIVFRINF 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.
Matches 431; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (Human)
                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     [1]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Lymph;
                                   Matches 477;
                                                                         252
                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                      431
                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                             491
                                                                                                                                                                                                                                                                                                                                                                                                                                                           551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19
 Query Match
                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q8IXR3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 4
2081XR3
10.081XR3
20.01.W
DT 0.1.W
DT 0
                                                                                                                                                   ŏ
                                                                                                                                                                                    g
                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                    \tilde{Q}
                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                           g
                                                                                                                                                                                                                          δŽ
                                                                                                                                                                                                                                                                                                                                                                           QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ÓΣ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
```

ó

433

09

Page

420

527 617

δŏ g QΫ́ 쉼

```
645 AVLLKAGMTVKQAVLYNALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVD 704
                                                                                     -----TDDRTEGYLRADSQEPSHFDSQQPAV-----LEEEEVMIAHAHPQEVYNEYVPR 534
                                                                                                                                  421 TWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQK~-KPENDDDVEIKKQLSKYESQLS 478
                                                                                                                                                                                                                                                                     528 YNEYVPRGCKNKCHSHFHDTLGQSDDLIHHHHDYHHILHHHQNHHPHSHSQR---YSR 584
                                                                                                                                                                                                                             558 PDSDWIQLKPLAGTDDSVVSEDRLNETELTDLEGQQESPPKNYLCIEEEKIIDHSHSDGL
310 KKAEIPPKTYSL-----QIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF
                   LVALAVGTLSGDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSONIEESAYFDS
                                                                                                                                                      479 INEEKVD-----TDDRIEGYLRADSQEPSHFDSQQPA----VLEEEEVMIAHAHPQEV
                                                                                                                                                                                                                                                                                                                                        585 EELKDAGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 369 LSGDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MSGDALLHILPHSQGGHDHSHQHTH-----GHGHSHGHESKEFLEE---YDAVLKGLVAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 429 GGLYFMFLVEHVLTLIKQFKDKKKKNQK--KPENDDDVEIKKQLSKYESQLSTNEEKVD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         the RIKEN Genome Exploration Research Group Phase I & II Team;
"Analysis of the mouse transcriptome based on functional annotation 60,770 full-length cDNAs.";
Nature 420:563-573(2002).
EMBI: AK049099; BAC3542.1; -SEQUENCE 381 AA, 42435 MW; 9BDE487CD9765E55 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         705 MVPEMLHNDA--SDHGCSRWGYFFLQNAGMLLGFGIMLLISIFEHKIVFRINF 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus NCBL_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 381;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Weakly similar to CDNA FL332338 FIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22.4%; Score 902; DB 11; 46.3%; Pred. No. 2.4e-63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          381 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 67; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN=C57BL/6J; TISSUE=Cerebellum;
MEDLINE=22354683; PubMed=12466851;
The FANTOM Consortium,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                46.38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q8BX42;
01-MAR-2003 (TrEMBLrel.
01-MAR-2003 (TrEMBLrel.
01-MAR-2003 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Wus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 189;
                                                                                                                                                                                                                                                                                                      618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     186
                                 387
                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q8BX42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q8BX42
                                                                                                                                                                                                                                                                                                                                                                                                                                        쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   d
                             q
                                                                                                                                                                Dp
                                                                                                                                                                                                     \Omega
                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                     원
                                                                                                                                                                                                                                                                                                                                      Q\underline{y}
                                                                                                                                                                                                                                                                                                                                                                  임
                                                                                                                                                                                                                                                                                                                                                                                                      QŸ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         \Omega
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δŽ
                                                                δŽ
                                                                                                 q
                                                                                                                             δă
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                285
                   733
                                  101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----GKNKRKALCP 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9 MHTKFCLICLIFFHHCNHCHE-EHDHGPEALHRQHRGMTELEP---SKFSKQAAENEK 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           54 QYHLQQLFYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHHD---HDH--HSD-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             185 HHRLHHHLDHNNTHHFHNDSITPSERGEPSNEPSTETNKTQEQSDVKLPKGKRKKKGRKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DHDSD--SSGKDPRNSQGK----GAHRPEHASGRRNVKDSVSASEVTSTVYNTVSEGTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       245 NENSEVITPGFPPNHDQGBQYEHNRVHKPDR-------VHNPGHSHVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  250 GFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPALINQIDARSCLIHTSE
               TGIFIGHYAENVSMWIFALTAGLFMYVALVDMVPEMLHNDASDHGCSRWGYFFLQNAGML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MARKLSVILILIFFALSVINPLHELKAAAFPQTIEK-----ISPNWESGINVDLAISTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---SDHEHHSDHEHHSDH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           125 KHFHSHNHQHSHNHINSENQTVTSVSTKRNHKCDPEKETVEVSVKSDDKHMHDHNHRLRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----TIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKTNESVSEPRK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 286 LPERNGHDPGRGHODLDPDNEGEL------RHTRKREAPHVKNNAIISLRX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-Brain;
MEDLINE-20039619; PubMed=10574462;
MEDLINE-20039619; PubMed=10574462;
MEDLINE-20039619; PubMed=10574462;
Magase T., Ishikawa K., Kikuno R., Hirosawa M., Nomura N., Ohara O.;
"Prediction of the coding sequences of unidentified human genes. XV The complete sequences of 100 new cDNA clones from brain which code for large proteins in vitro.";
DNA Res. 6:337-345(199).
EMBL, AB033091; BAA86579.1;
InterPro; IPR007087; Znf_C2H2.
InterPro; IPR007089; Zn_transpt_Zip.
                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 33.2%; Score 1337; DB 4; Length 835; Best Local Similarity 35.5%; Pred. No. 1.8e-97; Matches 317; Conservative 131; Mismatches 241; Indels 204;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE 835 AA; 94559 MW; 851503EFC02F1391 CRC64;
                                                                                                                                                                                                                                                    13, Last sequence update)
23, Last annotation update)
                                                                                                                                                                                                   835 AA
                                                                                                                                                                                                                                 01-MAY-2000 (TrEMBLrel. 13, created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence
01-MAR-2003 (TrEMBLrel. 23, Last annotation
Hypothetical protein KIAA1265 (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam; PF02535; Zip; 1. PROSITE; PS00028; ZINC_FINGER_C2H2_1; 1.
                                                                                                 LGFGIMLLISIFEHKIVFRINF 382
                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---HEHHSDHERH---
                                                                                  LGFGIMLLISIFEHKIVFRINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DH------HSHHNHAAS-
                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                      Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                         [1]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 201 FLE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 331
                                               301
                                                                                734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           65
                                                                                                             361
                                                                                                                                                                                                                                                                                                      KIAA1265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NON_TER
                                                                                                                                                                                                   Q9ULF5
```

644

13;

οĘ

g

QYg δ g

Q

쉽

Ω

g δ 엄

Qγ

g

Qγ

428

52

S

```
Matches
   δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BADULANLE FROM N.A.

RAY STRAIN-BERKOLR N.A.

RAY AGABIA M.D. Cellaiker S.E., Holt R.A., Evans C.A., Gocayne J.D., Adama M.D., Cellaiker S.E., Holt R.A., Evans C.A., Gocayne J.D., Adama M.D., Cellaiker S.E., Holt R.A., Evans C.A., Gocayne J.D., Amanatides P.G., Scherer S.E., I.D.P.M., Hoskins R.A., Galle R.F., Strong C.G., Worthman J.E., Rahderds S.A., Schburner M., Henderson S.N., Sutton G.G., Worthman J.E., Rahderds S.C., Chen L.X., Sutton G.G., Worthman J.E., Platel G., Nelson C.R., Miklos G.L.G., Man R.D., Dayler C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G., Abril J.F., Agbayani A., Baxendale J., Bayraktaroldy L., Beasley E.M., Basni J. Barndon R., Banos P.Y., Berman B.P., Bhandari D., Bolshakov S., R.B. Besson K.Y., Benos P.V., Berman B.P., Bhandari D., Dolshakov S., Buttis K.C., Budam D.A., Dallke C., Davenport L.B., Davise S., Dallke C., Davenport L.B., Davise S., Danise C., Davenport L.B., Davise S., Danise C., Davenport L.B., Davise S., Danise C., Davenport L.B., Davise S., Davise S. D. Dalcher A., Deng Z., Mays A.D., Dew I., Dietz S.M., P. Buttis K.C., Budsam D.A., Ballew M., Dugan Rocias S., Dallate S., Davise S., Dallate C., Davenport L.B., Davise S., Davise S., Dallake C., Davenport L.B., Davise S., Davise S., Dallake C., Davenport L.B., Davise S., Davise S., Dallake C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K., Rodick A., Gong F., Gorrell J.H., Well Ernandez J.R., Harris M., Alushin R.W., Moland T.J., Wei M.-H., Ibegwan C., Alalali M. Kalush F., Karpen G.H., Ke Z., Kennison J.A., Kattei B., Moltcoh T.C., Morise S., Rulp D. M., Nachtei B., Moltcoh T.C., Morise S., Rulp D. M., Nachtei B., Moltcoh T.C., Morise S., Moly M., Murphy B., Murphy L., Muzny D.M., Nachtei B., Moltcoh K., Nachtei B., Moltcoh K., Nachtei B., Staden Kiamos I., Simpson M., Skupski M.P., Sale S., Palali M., Shub B.C., Siden Kiamos I., Simpson M., Skupski M., Shub B.C., Siden Kiamos I., Simpson M., Shupski M., Shub B.C., Siden Kiamos I., Simpson M., Shup G., Shup S., Nau Woodage T., Worley K.C., Wu D., Yang S.,
                                                               649
                                                                                           273
                                                                                                                       709
                                                                                                                                                     333
GCKNKCHSH-FHDTLGQSDDLIHHHHDYHH-ILHHHHHQNHH---PHSHSQRYSREELKD 589
                             166 ----IHEHEVHVT-----SHNHHDEDKAVLRKHSHQWHHRHAHHSHGPCHSGSDLKE 213
                                                        590 AGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLK
                                                                           650 AGWIVKQAVLYNALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVDMVPEM
                                                                                                                                                                                  755
                                                                                                                                                                                                                                                                                                                                                                                           Drosophila melanogaster (Fruit fly).
Bakaryota, Metazoa, Arthropoda; Hayapoda; Insecta; Pterygota; Neoptera; Endopterygota; Diptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                              381
                                                                                                                                                                              710 LHNDA--SDHGCSRWGYFFLQNAGMLLGFGIMLLISIFEHKIVFRINF
                                                                                                                                                                                                 01-WAY-2000 (TrEWBLrel. 13, Created)
01-OCT-2002 (TrEWBLrel. 22, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
                                                                                                                                                                                                                                                                                        701 AA.
                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=7227;
                                                                                                                                                                                                                                                                                                                                                               CG6817 protein.
FOI OR CG6817.
                                                                                                                                                                                                           334
                                                                                                                                                                                                                                                                                      O9VSL7
                                                                                                                                                                                                                                                         œ
                                                                                                                                                                                                                                                       RESULT 6
                          ద
                                                          δŽ
                                                                                      a
                                                                                                                    QΛ
                                                                                                                                               g
                                                                                                                                                                                δž
                                                                                                                                                                                                           d
```

```
27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             67 TFNYSISPPSRREKRHA----GHEHGPTSESRVP----QITQYYLEKLM---AQDELMN 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         72 VEGFRKILLQNIGIDKI-------KRIHIHHDHDHHSDHEHHSDHERHSDHEHHS 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            119 DHEHHSDHDHHSHHNHAASGKN--KRKALC---PDHDSDSSGKDPRNSQGKGAHRPEHAS 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ---HHEEEDHSLQLNNCTLIQNGTTSNVICPSLPNNNTHPLGKEAKNF------ 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    174 GRRNVKDSVSASEVTSTVINTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVS 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----HLCPI 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          217 LLYELKAQSGCIEPAILSDIDTTEELLE-AEKDKDIFYVWIYAFISVFACGILGLYGVA 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      234 RLAGRKTNESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPA 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   294 IINQIDARS--CL-----IHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVI 344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          345 LVPLMNRVFFKFLLSFLVALAVGTLSGDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLF 404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12 TFALSVTNPLHELKAAAFPQTTEKISPNWESGINVDLAISTRQYHLQQLFYRYGENNSLS 71
RN [2]

RDDENCE FROM N.A.

Celniker S.E., Adams M.D., Kronmiller B., Wan K.H., Holt R.A.,
Celniker S.E., Adams M.D., Fronmiller B., Wan K.H., Holt R.A.,
Celniker S.E., Adams M.D., Banzon J., Beandon R.C., Rogers Y.,
Ranzon J., An H., Baldwin D., Banzon J., Beeson K.Y., Busam D.A.,
Carlson J.W., Center A., Champe M., Davenport L.B., Dietz S.M.,
Carlson J.W., Contert V., Doup L.E., Doyle C., Dresnek D., Farfan D.,
Rerriera S., Frise E., Galle R.F., Garg N.S., George R.A.,
Gonzalez M., Houck, T., Hoskins R.A., Hostin D., Howland T.J.,
A. McIntosh T.C., Moy M., Murphy B., Nelson C., Nelson K.A., Nunco J.,
Racintosh T.C., Moy M., Murphy B., Nelson C., Nelson K.A., Nunco J.,
Racintosh T.C., Moy M., Murphy B., Nelson C., Teler D.,
Rapeled J., Paragas V., Park S., Patel S., Pfeiffer B.,
Rapeleton M., Strong R., Svirskas R., Tector C., Tyler D.,
Williams S.M., Zaveri J.S., Smith H.O., Venter J.C., Rubin G.M.;
Sequencing of Drosophila melanogaster genome.";
Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels 267; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Misra S., Crosby M.A., Matthews B.B., Bayraktaroglu L., Campbell K Hradecky P., Huang Y., Kaminker J.S., Prochnik S.E., Smith C.D., Tupy J.L., Bergman C., Berman B., Carlson J.W., Celniker S.E., Clamp M., Drysdale R., Emmert D., Frise E., de Grey A., Harris N., Kronmiller B., Marshall B., Millburn G., Richter J., Russo S., Searle S.M.J., Smith E., Shu S., Smutniak F., Whitfield E., Ashburner M., Gelbart W.M., Rubin G.M., Mungall C.J., Lewis S.E.; "Annotation of Drosophila melanogaster genome.";
Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rubin G.M., Venter C.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 5; Length 701;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AE003555; AAF50401.2; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  / Match 19.6%; Score 787.5; DB 5;
Local Similarity 26.9%; Pred. No. 7.3e-54;
les 218; Conservative 118; Mismatches 206;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Adams M.D., Celniker S.E., Gibbs R.A.,
Submitted (MAR-2000) to the EMBL/GenBan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FlyBase; FBgn0024236; foi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               [5]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FlyBase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
```

321

523

581

g $\delta \Delta$ g δ 셤 ŏ Q QΥ g

QΥ

g

δŽ

g

QΥ

```
LLSFLVALAVGTLSGDAFLHLLPHSHASHHHSHEEPAMEMKRGPLFSHLSSQNIEESA 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       417 YFDSTWKGLTALGGLYFWFLVEHVLTLIKQFKDKKKKNQK--KPENDDDVEIKKQLSKYE 474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               440 SDGLHT------IHEHDLHAAAH---NHHGENKTVLRKHNHQWHHKHSHHSHGP 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of
                                               : : : : | | | : | | : | | : | | : | | : | | : | | : | | : | | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | : | | : | : | | : | : | | : | : | | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SDLKETGIANIAWMYFWGDGIHNFSDGLAIGAAFSAGLTGGISTSIAVFCHELPHELGDF
    EPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDARSCLI
                                                                                                                                                                       HTSEKKAEIPPKTYSL------QIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              475 SQLSTNEEKVD-----TDDRTEGYLRADSQEPSHFDSQQPA-----VLEEEEVMIAHAH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      524 РОЕУУИЕТУРЯССКИКСНЯННОТІСОВОВІТНЯННОУННІ І ННЯННОМНІРИВНІВОВ --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HSHFHDTLGQSDDLIH----PHHHDYHHILHHHH---------PHSHSQRYSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HSH-----SDGLHTIHEHEVHVTSHNHHDEDKAVLRKHSHQWHHRHAHHSHGPCHSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EELKDAGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AVILKAGMTVKQAVLYNALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MVPEMLHNDA -- SDHGCSRWGYFFLQNAGMLLGFGIMLLISIFEHKIVFRINF 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBL_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 228;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       228 AA; 25075 MW; CEE696F7BEB544D6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Weakly similar to CDNA FLJ32338 FIS (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -YSREELKDAGVATLAWMVIMGDGLHNFSDGLAIG 615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 703; DB 11;
Pred. No. 8.1e-48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         31; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ño.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity 57.9% tes 135; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                582
246
                                                                                                                                                                       306
                                                                                                                                                                                                                                                    209
                                                                                                                                                                                                                                                                                                                                 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7.05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q8C0L2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                        g
                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                                          엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCOCC OCC STREET BY STANK BY 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        쉼
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                  ΩŽ
                                                                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20;
                                                                                                                                                                                                                                                                                                                                                                                                                       425 AELRNGVGDHDGSNDMAAAAESLISPLHTNCVEMNHHNHKHNSHQQNHE--GQDSNTI 482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          #83 VTDLDGNAVYAVNKAKDKDSRNDHVTVILREHESSHHGHSH--RHGHVHSPPFTLSAVAW 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   137
                                  SHLSSQNIEESAYFDSTWKGLTALGGLYFWFLVEHVLTLIKQF-KDKKKKNQKKPE---- 459
                                                                                                                                                                                                                                                                                                                                                                        ---EEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQSDDLI 555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VLYNALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVDMVPEMLHNDASDH 717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ---GKNKRKALCPDHDSD--SSGKDPRNSQGK----GAHRPE--HASGRRNVKDSVSAS 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EVISTVYNIVSEGIHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKINESVS 245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Osada N., Hida M., Kusuda J., Tanuma R., Iseki K., Hirai M., Terao K., Suzuki Y., Sugano S., Hashimoto K.; "Isolation of full-length cDNA clones from macaque brain cDNA
                                                                                     --------HHHDYHHILHHHQNHHPHSHSQRYSREELKDAGVATLAW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -NDDDVEIKKQLS-----KYESQLSTNEEKVDTDDRTEGYLRADSQEPSHFDSQQPAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MVIMGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQA
                                                                                                                                                                                                                                                                                  366 MRDPDSSVNNSVAGDKICKQKYSSYPYCYDE-ITMNNKQSEWMHLPFDVAAGAGGDAPSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-WAR-2001 (TrEMBIrel. 16, Created)
01-WAR-2001 (TrEMBIrel. 16, Last sequence update)
01-MAR-2003 (TrEMBIrel. 13, Last annotation update)
Hypothetical 60.0 kDa protein.
Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
Eukaryota, Matazoa; Chordata; Craniata; Vertebrata; Butelcostomi;
Mammalia; Eutheria; Primates; Catarrinii; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  188; Indels 110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HDHDHHSDHEHHSDHERHSDHEHHSDHEHHSDHDHHSHNHAAS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 528;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         libraries.";
Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.
EMBL. ABO51127: BAB18153.1;
InterPro; PR003689; Zn_transpt_Zip.
Pfam; PF02535; Zip; 1.
Hypothetical protein.
SEQUENCE 528 AA; 60006 MW; E73669FC76580AAB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 734; DB 6;
Pred. No. 8.9e-50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              718 GCSRWGYFFLQNAGMLLGFGIMLLISIFE 746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      --KSLGQFLLQILGMLSGVGIMLLIALYE 682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             89; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18.2%;
32.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 188; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cercopithecinae; Macaca
NCBI_TaxID=9541;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE-Cerebellum;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  109
                                  405
                                                                                                                   324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9GKV2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 9
09GKV3
COGKV3
COGKV1
```

584

55

644 115 704

QQ

δ

g

δ

δÿ

```
742
                                                                                                                                                                                                                                   Q9D856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Loc
Matches
                                                                                                                                                                 RESULT 12
                                                                                                                                                                                                       09D856
                                                                                                                                                                                                                                   HID DIT HER LEAD OF THE LEAD O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΔ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ö
   δŽ
                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     395 AMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYFMFLVEHVLTLIK-----QFK 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VSMWIFALTAGLFMYVALVDMVPEMLHND---ASDHGCSRWGYFFLQNAGMLLGFGIMLL 741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98 HHSDHEHHSDHERHSDHEHHSDHEHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSSGKD 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           215 PKDVSSSTPPSVTSKSRVSRLAGRKTNESVSEPRKGFMYSRNTNENPQECFNASKLLTSH 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            168 GLSPAAPLTPRQFALLCPALLYQIDSRVCI-----GAPAPAPPGDLLSALLQSALAVLL 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              565 LHHHHHQNHHPHSHSQRYSREELKDAGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSS 624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       625 GLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLYNALSAMLAYLGMATGIFIGHYAEN 684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            158 PRNSQGKGAHRPEHASGRRNVKDSVSASEVTSTVYNTV---SEGTHFLETIETPRPGKLF 214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          275 GMGIQVPLNATEFNYLCPAIINQIDARSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISI 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             335 ISFLSLLGVILVPLMNRVFFKFLLSFLVALAVGTLSGDAFLHLLPHSHASHHHSHSHEEP 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              505 DSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQSDDLIHHHHDYHHI 564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40 WESGI--NVDLAISTRQYHLQQLFYRYGENNSLSVEGFRKILLQNIGIDKIKRIHIHHDHD 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20 WVGGSVPNLGPARQEQNHYLAQLFGLYGENGTLTAGGLARLLHSLGLGRYQCLRL----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DKKKKNQK - - - - KPENDDDVEIKKQLSKYESQLSTNEEKVDTDDRTEGYLRADSQEPSHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----GOHGPLTGRAASPAADNST-
                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 16.3%; Score 657.5; DB 4; Length 539; Best Local Similarity 26.5%; Pred. No. 1.1e-43; Matches 193; Conservative 111; Mismatches 192; Indels 233;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Strausberg R.; Submitted (APR-2002) to the EMBL/GenBank/DDBJ databases. EMBL; BC027884; AAH27884.1; -. SEQUENCE 539 AA; 56329 MW; 171DF134A2753FAC CRC64;
                                                                                                                                                                                             01-OCT-2002 (TrEMBLrel. 22, Last sequence update) 01-MAR-2003 (TrEMBLrel. 23, Last annotation update) Similar to RIKEN cDNa 1810013D05 gene.
                                                                                            539 AA.
                                                                                                                                                       01-0CT-2002 (TrEMBLRel. 22, Created)
01-0CT-2002 (TrEMBLRel. 22, Last seq
01-MAR-2003 (TrEMBLRel. 23, Last anno
                                                                                            PRT;
                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NSQHPPAL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              279 LPEKDLGP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-Pancreas;
                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   685
                                                                                            O8N6X3
                                                                                                                               OBN6Y3;
                           RESULT 11
1028N673
1028N673
AC 08N67
DT 01-0C
DT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \Delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QΣ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       \nabla
```

```
Rawai J. Shinagawa A., Shibata R., Yoshino M., Itoh M., Ishii Y., Rawai J., Shinagawa A., Shibata R., Ramai J., Shinagawa A., Shibata R., Ronno H., Adachi J., Fukuda S., Arakawa T., Ishaa A., Fukunishi Y., Konno H., Adachi J., Fukuda S., Anakawa T., Ishaa M., Mishi K., Kiyosawa H., Kodos S., Yammanka I., Saito T., Okozaki Y., Gojobori T., Bono H., Rasukawa T., Saito R., Radota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T., R. Felsichmann W., Gasaterland T., Gissi C., King B., Kochiwa H., R., Kuchi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J., R., Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T., R. Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G., Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F., Brownstein M.J., Bull C., Fletcher C., Fujita M., Gariboldi M., Brownstein M.J., Bull C., Fletcher C., Fujita M., Gariboldi M., Rusons P., Marchioni L., Mashima J., Mazzarelli J., Mombaerts P., Ring B., Ringwald M., Rodriguez I., Sakamoto N., Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.F., Suzuki H., Toyo-Oka K., Wang K.H., Weitz C., Whittaker C., Wilming L., Washima J., Wazzarelli J., Wohitzaki Y., Storch K., Wangshizaki Y., Rawaji H., Kohtsuki S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             214 FPKDVSSSTPPSVTSKSRVSRLAGRKTNESVSEPRKGFMYSRNTNENPQECFNASKLLTS 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HDHDHHSDHEHHSDHERHSDHEHHSDHEHHSDHDHHSHHNHAASGKNKRKALCPDHDSDS 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          154 SGKDPRNSQGKGAHRPEHASGRRNVKDSVSASEVTSTVYNTVSEGTHFLETIETPRPGKL 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          36 ISPNWESGI--NVDLAISTRQYHLQQLFYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16 VALGWVGGSVPNLGPAEQEQNHYLAQLFGLYGENGTLTAGGLARLLHSLGLGRVQGLRLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              76 H-------HEPPTGRAAPTSGDNFTHRL-----------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --
--
--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musiae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Functional annotation of a full-length mouse cDNA collection.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  237;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 11; Length 535;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          --QEPELSVDIWAGMPLGPSGWGDQEESKA------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Strausberg R.;
Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AK008448; BAB25575.1; -.
EMBL; BC028990; AAL28990.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  56274 MW; 272204D17B2E66CD CRC64;
                                                                                                                                                                                                                                                                                                                                                        01-JUN-2001 (TrEMBLrel. 17, Last sequence update) 01-JUN-ARR-2003 (TrEMBLrel. 23, Last annotation update) 2010205A06Rik protein (RIKEN CDNA 1810013D05 gene).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity 25.4%; Pred. No. 2.8e-43; tes 186; Conservative 111; Mismatches 199;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16.2%; Score 652.5; DB 1
25.4%; Pred. No. 2.8e-43;
                                                                                                                                                                                                                                                      A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN=C57BL/6J; TISSUE=Small intestine;
MEDLINE=21085660; PubMed=11217851;
                                                                                                                                                                                                                                                                                                                          Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR003689; Zn_transpt_Zip.
                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MGI:1919336; 2010205A06R1K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ••
                                                                                                                                                                                                                                                                                                                  01-JUN-2001 (TrEMBLEEL: 17, 01-JUN-2001 (TrEMBLEEL: 17, 01-MAR-2003 (TrEMBLEEL: 23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nature 409:685-690(2001).
                                                                                                                                                                                                                                                      PRELIMINARY;
                                         |:: | :::
525 ITLLEERLL 533
ISIFEHKIV 750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PF02535; Zip; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE-Kidney;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2010205A06RIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
```

ω

```
Hayashizaki Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q8VDL0;
Q8VDL0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        08VDL0
    g
                                                                                                                                                                                                                                          QΫ́
                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                QΥ
                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                             δy
                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ÓΣ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΛ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12555
1555
                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-CSTBL/GJ; TISSUE-Pancreas;

KRAIN-CSTBL/GJ; TISSUE-Pancreas;

KRAWAI J. Shinagawa A., Shibata K., Yoshino M., Itch M., Ishii Y.,

Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,

Arizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,

Alizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,

Asaito T., Okazaki Y., Golobori T., Bono H., Rasukawa T., Saito R.,

Kadota K., Matsuda H.A., Ashburnar M., Batalov S., Casavant T.,

Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,

Kadota K., Matsud T., Oissi C., King B., Kochiwa H.,

Fleischmann W., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,

Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,

Saki K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,

Blake J., Boffelli D., Bojunga N., Carninci P., Ge Bonaldo M.F.,

Blake J., Boffelli D., Hojunga N., Carninci P., Ge Bonaldo M.F.,

Blake J., Hill D., Hoffmann M., Hume D.A., Kamiya M., Lee N.H.,

Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,

Kanordon P., Ring B., Kingwald M., Rodriguez I., Sakamoto N.,

Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,

Saski H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Whitming L.,

Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
                                                                                                                                           446
                                                                                                                                                                       315
                                                                                                                                                                                                 506
                                                                                                                                                                                                                                                       566
                                                                                                                                                                                                                                                                                                                                                                     989
                                                                                                                                                                                                                                                                                                                                                                                                 469
                                                                                                                                                                                                                                                                                                                                                                                                                                           365
                                                                                                                                                                                                                                                                                                               626
  ---HINE---DCLNGSQLLVN 165
                                                                                                                                                                                                                                                                                                                                        -----HQGHSHEHR------GGSIAWMVLLGDCLHNLTDGLALGAAFSDGFSSGL 409
                                                                                                                                                                                                                                                                                                                                                                                                                          MWIFALTAGLFMYVALVDMVPEML------HNDASDHGCSRWGYFFLQNAGMLLGFG 737
                           HGMGIQVPLNATEFNYLCPAIINQIDARSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAIS
                                           FKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEKVDTDDRTEGYLRADSQEPSHFDS
                                                                                                                                                                                                                        316 CRNKRDLGEPNPDPEDG-----SGMVLRPLQAASEPEVQGQRENRQSSPS----
                                                                                                                                                                                                                                                      QOPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQSDDLIHHHDYHHILH
                                                                                                                                                                                                                                                                                                                                                                  STSVAVFCHELPHELGDFAVLLKAGMTVKQAVLYNALSAMLAYLGMATGIFIGHYAENVS
                                                                                                                                                                                                                                                                                                                                                                                    334 IISFLSLLGVILVPLMNRVFFKFILSFLVALAVGTLSGDAFLHLLPHSHASHHHSHSE
                                                                                                                                         394 PAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYFWFLVEHVLTLIKQ-----
                                                                                                                                                                                                                                                                                                            HHHHONHHPHSHSQRYSREELKDAGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
                                                                                                                                                                                                                                                                                   -----TAPPG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Last sequence update)
Last annotation update)
--PDLHGSGPSSLDLFQRLLLL----DHSLAD--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  535 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IMLLISIFEHKIV 750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  : | |:: | :: |
LMFTIALLEEQLV 529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1810013D05Rik protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      [1]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1810013D05RIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                738
                           274
                                                                                                                                                                    280
                                                                                                                                                                                               447
                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                            567
                                                                                                                                                                                                                                                                                                                                        366
                                                                                                                                                                                                                                                                                                                                                                                                                          687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          517
                                                                                                                                                                                                                                                                                                                                                                  627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 606060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                          QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
셤
                                                                                                         QQ
                                                                                                                                                            g
                                                                                                                                                                                       δ
                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                         ğ
                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                  ζŏ
                           QΥ
                                                셤
                                                                          ŏ
                                                                                                                                        δŽ
```

```
17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              469
                                                                                                                                                                                                                                                                                                                                                          153
                                                                                                                                                                                                                                                                                                                                                                                                                                              154 SGKDPRNSQGKGAHRPEHASGRRNVKDSVSASEVISIVYNIVSEGTHFLETIETPRPGKL 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              --PDLHGSGPSSLDRFQRLLLL----DHSLAD------HLNE---DCLNGSQLLVN 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HGMGIQVPLNATEFNYLCPAIINQIDARSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAIS 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IISFLSLLGVILVPLMNRVFFKFLLSFLVALAVGTLSGDAFLHLLPHSHASHHHSHSEF 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        280 ---EEDLGP--------GLSVLGGLFILFMLENTLGLVRHRGLRPRC 315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              567 HHHHQNHHPHSHSQRYSREELKDAGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGL 626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         687 MWIFALTAGLFMYVALVDMVPEML-------HNDASDHGCSRWGYFFLQNAGMLLGFG 737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                470 PWVFGTTAGVFLYVALVDMLPTLLRPPEPLPVFH-------VLLQGLGLLLGGS 516
                                                                                                                                                                                                                                                                                                                                                                                                     96
                                                                                                                                                                                                                                                                                            -----HQGHSHEHR------GGSIAWWVLLGDCLHNLTDGLALGAAFSDGFSSGL
                                                                                                                                                                                                                                                                                                                                                          HDHDHHSDHEHHSDHERHSDHEHHSDREHHSDHDHHSHHNHAASGKNKRKALCPDHDSDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  214 FPKDVSSSTPPSVTSKSRVSRLAGRKTNESVSEPRKGFMYSRNTNENPQECFNASKLLTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   447 FKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEKVDTDDRTEGYLRADSQEPSHFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            507 QQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQSDDLIHHHHDYHHILH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STSVAVFCHELPHELGDFAVLLKAGMTVKQAVLYNALSAMLAYLGMATGIFIGHYAENVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         36 ISPNWESGI -- NVDLAISTRQYHLQQLFYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIH
                                                                                                                                                                                                                                                                                                                                                                                                   394 PAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYFMFLVEHVLTLIKQ-----
                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               316 CRNKRDLGEPNPDPED------VSGMVLRPLQAASEPEVQGQRENRQSSPS-
"Functional annotation of a full-length mouse cDNA collection."; Nature 409:685-690(2001).
                                                                                                                                                                                                                            237;
                                                                                                                                                                               Length 535;
                                                                                                                                                                                                                            Indels
                                         EMBL, AKO7743; BAB25054.1; -.
MGD; MGI:1919252; 1810013D05Rik.
InterPro; IPR003669; Zn_transpt_Zip.
Ffan; PF02555; 219; 1.
SEQUENCE 535 AA; 56360 MW; 77CF3310EB90DF5B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Last sequence update)
Last annotation update)
                                                                                                                                                                                 DB 11;
                                                                                                                                                                             16.2%; Score 652.5; DB 11;
llarity 25.4%; Pred. No. 2.8e-43;
Conservative 111; Mismatches 199;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --OEPELSVDIWAGMPLGPSGWGDQEESKA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3,66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IMLLISIFEHKIV 750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         :| |:: | ::|
IMFTIALLEEQLV 529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAR-2002 (TrEMBLrel.
01-WAR-2002 (TrEMBLrel.
01-WAR-2003 (TrEMBLrel.
                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                            186;
                                                                                                                                                                               Query Match
Best Local S:
Matches 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             334
                                                                                                                                                                                                                                                                                                                                                       94
                                                                                                                                                                                                                                                                                                                                                                                                   94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       97
```

σ

```
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                     NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        197
                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Search cor
Job time
                 OC OX OX SERVICE SERVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | | | : : : : |||||: :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      603 DGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLYNA 662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----KSRVSRLAGRKTNESVSEPRKGFMYSRNT 257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   258 NENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDARSCLIHTSE-KKAEIPP 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KTY----SLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSFLVALAVGTLSGD 372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLY 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     200 ALFQLIPEAFGFN-------PQDNYVS-------KSAVVFGGFY 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    433 FWFLYEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEKVDTDDRTEG 492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  493 YLR-----ADSQEPSH----FDSQQPAVLEEBEVMIAHAHPQEVYNBYVPRGCKNKCHS 542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 663 LSAMLAYLGMATGIFIG-HYAENVSMWIFALTAGLFMYVALVDMYPEMLHNDASDHGCSR 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           230 LFFFTEKILKML-----LKQKNEHHHGHNH--------FTSETLPSKKDQEEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             270 VTEKLQNGDLDHMIPQHCNSELDGKAPGT--DEKVIVNSMSVQDL------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             543 HFHDTLGQSDDLIHHHHDYHHILHHHHQNHHPHSHSQRYSREELKDAGVATLAWMYIMG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30 SAGLPPLSATSFLEDIMDRYGKNDSLTLTQLKSLLDHLHVGYGRDNVSQPKEG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                 Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels 154;
                                                                                                                                                                                                                                                                                                                                                                                                                 Length 489;
                                                                                                                                                                                                Strausberg R.; Submitted (JAN-2002) to the EMBL/GenBank/DDBJ databases. EMBL; BC021530; AAH21530.1; MGD; MGI:2384851; BC021530.
                                                                                                                                                                                                                                                                                        InterPro; IPR003689; Zn_transpt_Zip.
Prop. Pr0253; Zip; 1.
Hypotherical protein.
SEQUENCE 489 AA; 53754 MW; Cl24EB928457CFC8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                          ; Score 640; DB 11;
; Pred. No. 2.4e-42;
93; Mismatches 158;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            722 WGY---FFLQNAGMLLGFGIMLLISIFEHKI 749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         531 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-WAR-2003 (TrEMBLrel. 23, Last annotation Hypothetical protein KiAA0062 (Fragment). KIAA0062.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       219 SSSTPP-SVTS-----
Hypothetical 53.8 kDa protein.
BC021530.
                                                                                                                                                                                                                                                                                                                                                                                                               15.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (TrEMBLrel. 01, (TrEMBLrel. 01,
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 166; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                           NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                401
                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          015043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       015043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 15
Q15043
         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΛ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \delta \Delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
```

```
373 AFLHILPHSHASHHHSHSHERPAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLY 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  433 FMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEKVDTDDRTEG 492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             272 LFFFTEKILKIL-----LKQKNEHHHGH------SHYASESLPSKK-----DQEEG 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             493 YLR-----ADSQEPSH----FDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHS 542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                603 DGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLYNA 662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     663 LSAMLAYLGMATGIFIG-HYAENVSMWIFALTAGLFMYVALVDMVPEMLHNDASDHGCSR 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  258 NENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDARSCLIHT----SEKKA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     313 EIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSFLVALAVGTLSGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          312 VMEKLQNGDLDHMIPQHCSSELDGKAPMV--DEKVIVGSLSVQDL------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HFHDTLGQSDDLIHHHHDYHHILHHHHHQNHHPHSHSQRYSREELKDAGVATLAWMYIMG
                                                                                                                                                     II
                                                                                             Nomura N., Nagase T., Miyajima N., Sazuka T., Tanaka A., Sato S., Seki N., Kawarabayashi Y., Ishikwa K., Tabata S.; Prediction of the coding sequences of unidentified human genes. The coding sequences of 40 new genes (KIAA0041-KIAA0080) deduced analysis of cDNA clones from human cell line KG-1.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     127;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 531;
                                                                                                                                                                                                                                                                                                                                                                                                                                15.7%; Score 632.5; DB 4; Length 930.3%; Pred. No. 1.1e-41; tive 83; Mismatches 147; Indels
                                                                                                                                                                                                                                                                                                                                                                                5AB18EA399CCEE2B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        722 WGY----FFLQNAGMLLGFGIMLLISIFEHKI 749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22:16:28
                                                                                                                                                                                                                                                EMBL, D31887; BAA06685.1; -
InterPro; IPR003689; Zn_transpt_Zip.
Pfam; PF02535; Zip; 1.
                        [1]
SEQUENCE FROM N.A. MEDLINE=96051398; PubMed=7584044;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     completed: September 12, 2003, ne : 97 secs
                                                                                                                                                                                                                                                                                                                                                                                531 AA; 58417 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
es 155; Conserva
NCBI_TaxID=9606;
```

us-09-642-034-5.rai

```
Sequence 3, Appliance 2, Appliance 2, Appliance 2, Appliance 6, Appliance 6, Appliance 6, Appliance 7, Appliance 7, Appliance 13, Appliance 102, Appliance 102, Appliance 102, Appliance 6551, Appliance 6551,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 2, Appli
Sequence 88, Appl
Sequence 196, Appl
Sequence 3, Appli
Sequence 2, Appli
Sequence 2, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8, Appli
10, Arr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10, Appl
5540, Ap
17, Appl
12, Appl
12, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29223, A
17, Appl
                                                                                                                                                                                September 12, 2003, 22:14:11; Search time 29 Seconds (without alignments) 1101.541 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1
Sequence 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 2
Sequence 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                       4024
1 MARKLSVILILTFALSVTNP......FGIMLLISIFEHKIVFRINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-149-097D-37
US-09-252-991A-29223
US-08-211-942-17
US-09-126-980-2
US-09-476-482-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-311-023-2
US-09-599-360B-8B
US-09-686-528A-196
US-09-465-287-3
US-09-456-287-2
US-09-456-287-2
US-09-456-287-2
US-09-456-287-2
US-09-456-287-2
US-09-456-287-2
US-09-456-287-2
US-09-456-287-2
US-09-456-287-2
US-09-466-4
US-09-134-001-02
US-09-134-001-02
US-09-134-001-02
US-09-134-01-02
US-09-134-01-038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-134-001C-5540
US-09-461-474-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-507-323B-12
US-09-461-474-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  328717 seqs, 42310858 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                  sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                     BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Issued_Patents_AA:*
                                                                                                                                  using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query
Match Length DB
                                                                                                                                                                                                                                                                                                                         US-09-642-034-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein search,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2205
388.5
388.5
1546
1546
1547
1548.5
140
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1348.5
1
                                                                                                                                                                                                                                                                                                                                                           Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                     OM protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                         Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Searched:
                                                                                                                                                                                              Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Result
```

```
24594, A
4 Appli
2, Appli
2, Appli
14, Appl
4, Appli
Appli
Appli
                                                                                                                                                                                                                                                             2962, Ap
3524, Ap
2, Appli
2, Appli
                                                                                                                  Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                             Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
APPLICANT: MANNING, David Lockwood
APPLICANT: NICHOLSON, Robert ian
APPLICANT: GER, Julia Margaret
APPLICANT: GER, Julia Margaret
APPLICANT: GER, Christopher Douglas
TITLE OF INVENTION: METHODS FOR PREDICTING THE BEHAVIOUR OF
TITLE OF INVENTION: BEAST TUMOURS
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
ADDRESSEE: Young & Thompson
STREET: 745 South 23rd Street
CITY: Allington
                                                                                                                                                                                                                                                                                                                                                     Sequence
Sequence
                                              Sequence
                                                                         Sequence
                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ZIP: 22202

COMPUTER READABLE FORM:
MEDIDIM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFWMARE: Patentin Release #1.0, Version #1.25 (EPO)
CURRENT APPLICATION DARA:
APPLICATION NUMBER: US/08/311,023
FILING DATE: 22-SEP-1994
ATTORNEY/AGENT INFORMATION:
NAME: PATCH, Andrew J.
REGISTRATION NUMBER: Reg. No. 5693465 32,925
US-09-517-605-6
US-08-149-097D-35
US-09-097D-31
US-09-052-991A-24594
US-09-208-742-4
US-09-208-742-4
US-09-107-955-2
US-09-107-958-14
US-09-107-858-14
US-09-107-858-14
US-09-107-858-14
US-09-107-858-2
US-09-107-858-2
US-09-134-001C-2962
US-09-134-001C-3524
US-08-653-112-2
US-08-653-112-2
                                                                                                                                                                                                                                                                                                                                                  US-09-134-001C-5389
US-07-789-915A-8
US-08-005-002C-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         No. 5693465 32,925 WCM.56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 2, Application US/08311023 Patent No. 5693465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: WC
TELECOMMUNICATION INFORMATION:
TELEPHONE: 703/521-2297
TELEFAX: 703/685-0573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEX: 248425
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  : 431 amino acids
amino acid
    2726
1182
1182
1182
1261
1261
1261
345
345
707
703
912
912
912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; MOLECULE TYPE: protein US-08-311-023-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
    USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ΚĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-311-023-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH:
                                                                      116
116
116
116
115.5
115.5
113.5
113.5
113.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
111.5
11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 1
```

ó;

Gaps

ô

328 GFIAISIISFLSLLGVILVPLMNRVFFKFLLSFLVALAVGTLSGDAFLHLLPHSHASHHH 387

54.8%; Score 2205; DB 1; Length 431; 100.0%; Pred. No. 3e-203; ive 0; Mismatches 0; Indels

Query Match 54.8 Best Local Similarity 100. Matches 415; Conservative

δ g

1 GFIAISIISFLSLLGVILVPLMNRVFFKFLLSFLVALAVGTLSGDAFLHLLDPASHAHH 60

DD 129 PRGPAPSGLDLLHRLLLIDHSLAD	RESULT 3 US-663-600A-196 Sequence 196, Application US/09663600A Patent No. 6573068 Fatent No. 6573068 FAREAL INFORMATION: APPLICANT: Dumas Milne Edwards, Jean-Baptiste APPLICANT: Boughaleret, Lydie TITLE OF INVENTION: EXTENDED CDNAS FOR SECRETED PROTEINS FILE REFRENCE: 31.US3.CIP CURRENT FILING DATE: 2000-09-15 FURN FILING DATE: 1998-11-13 FRIOR PELICATION NUMBER: 09/19/1997 FRIOR PELING DATE: 1998-11-13 FRIOR APPLICATION NUMBER: 60/066,577 FRIOR APPLICATION NUMBER: 60/066,577 FRIOR APPLICATION NUMBER: 60/06,957 FRIOR PILING DATE: 1998-01-10-13 FRIOR FILING DATE: 1998-02-09 FRIOR PILING DATE: 1998-04-13 FRIOR PELING DATE: 1998-04-13 FRIOR PELING DATE: 1998-04-13 FRIOR PELING DATE: 1998-04-13 FRIOR PELING DATE: 1998-08-10 FRIOR FILING DATE: 1998-08-10 FRIOR FILING DATE: 1998-09-04 FRIOR FILING DATE: 1998-0	ORGANISM: Homo sapiens -09-663-600A-196 Query Match 4.1%; Score 166; DB 4; Length 150; Best Local Similarity 28.7%; Pred. No. 5.1e-08; Matches 43; Conservative 27; Mismatches 68; Indels 12; Gaps	QY
OY 388 SHSHBEPAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYPMFLYEHVLTLIKOF 447 61 SHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYPMFLYEHVLTLIKOF 120 448 KDKKKKNQKKPENDDDVEIKKQLSKYESQLSTWEGYTDDRTEGYLRADSQEPSHFDSQ 507 141 111	ф	40 WESGINVDLAISTRQYHLQQLFYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHDHD	Db 76

δŽ

g

```
-HDSDSSGKDPRNSQGKG 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              147 HVWYSPAISKIVAQKVADKLTAQFPDKKALIAQNLSDFNRTLAEQSEKITAQLANVKDKG 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     84 IDKIKRIHIHH--DHDHHSDHERHSDHERHSDHEHHSDHDHHSHHNH------ 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          166 AHRPEHASGRRNVKDSVSASEVTSTVYNT----VSEG----THFLETIETPRPGKLFPKD 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3.8%; Score 154; DB 3; Length 313; 25.7%; Pred. No. 2.4e-06; tive 15; Mismatches 83; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E: Burns, Doane, Swecker & Mathis, L.L.P. 1737 King Street, Suite 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERARRE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                      SYSTEM: PC-DOS/MS-DOS
PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICAMY: LINGWOOD, CLIFFORD A.
TITLE OF INVENTION: HAEMOPHILUS ADHESIN PROTEIN
NUMBER OF SEQUENCES: 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         218 VSSSTPPSVTSKSRVSRLAGRKTNESVSEP 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----POFTPKVIESLAKNIKVNVGQLDP 284
                                                                                                                                                                                                                                                                   CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/686,528
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Rea, Teresa Stanck
REGISTRATION NUMBER: 30,427
REFERENCE/DOCKET NUMBER: 032609-001
  STREET: 1737 King Street, Suite 500
                                                                                                                                                                                                                                                                                                                                                                                                                          032609-001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/08/686,528A
                                                                                                                                                                                                     CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/456,287
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -AASGKNKRKALCPD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 2, Application US/08686528A Patent No. 6054134
                                                           COUNTRY: United States
ZIP: 22314-2756
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
                                                                                                                                                                                                                                                                                                                                                                                                                                       INFORMATION FOR SEQ ID NO: 3: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     313 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STATE: Virginia
COUNTRY: United States
ZIP: 22314-2756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              54; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS: ADDRESSE: Burns, Do
                                                                                                                                                                    OPERATING SYSTEM:
SOFTWARE: Patenti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: Alexandria
                          Alexandria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
                                              Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 6
US-08-686-528A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-456-287-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       135
                                           STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δă
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ---HDSDSSGKDPRNSQGKG 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    147 HVWYSPAISKIVAQKVADKLTAQFPDKKALIAQNLSDFNRTLAEQSEKITAQLANVKDKG 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            166 AHRPEHASGRRNVKDSVSASEVTSTVYNT----VSEG----THFLETIETPRPGKLFPKD 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         84 IDKIKRIHIHH -- DHDHHSDHEHHSDHERHSDHEHHSDHDHHSHNH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 313;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                         ADDRESSEE: Burns, Doane, Swecker & Mathis, L.L.P.
STREET: 1737 King Street, Suite 500
CITY: Alexandria
STATE: Virginia
COUNTRY: United States
ZIP: 22314-2756
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: Floppy disk
COMPUTER: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/686,528A
FILING DATE: 26-UUL-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE: Burns, Doane, Swecker & Mathis, L.L.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    83;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: LINGWOOD, Clifford A.
TITLE OF INVENTION: HAEMOPHILUS ADHESIN PROTEIN
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                            Sequence 3, Application US/08686528A
Patent No. 6054134
GENERAL INFORMATION:
APPLICANT: LINGWOOD, Clifford A.
TITLE OF INVENTION: HAEMOPHILUS ADHESIN PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 154; DB 3;
Pred. No. 2.4e-06;
                          120 GKHFHSHNHQHSHNHLNSENQTVTSVSTKK 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             218 VSSSTPPSVTSKSRVSRLAGRKTNESVSEP 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  54; Conservative 15; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----POFTPKVIESLAKNIKVNVGQLDP 284
114 HEHHSDHEHHSDHDHHSHHNHAASGKNKRK 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            032609-001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             --------AASGKNKRKALCPD---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 3, Application US/09456287 Patent No. 6218147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY AGENT INFORMATION:
NAME: Rea, Teresa Stanek
REGIGTRATION NUMBER: 30,427
REFRENCATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30,427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 313 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 2
CLASSIFICATION:
                                                                                                         RESULT 4
US-08-686-528A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-686-528A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-456-287-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
```

QΥ

d

a δŽ ద δŽ 셤

δŏ

Gaps

us-09-642-034-5.rai

```
APPLICANT: Knapp, Bernhard
APPLICANT: Hundt, Erika
APPLICANT: Hundt, Erika
APPLICANT: Hundt, Erika
APPLICANT: Hundt, Erika
APPLICANT: Moders, Burkhard
APPLICANT: Knepper, Bans
TITLE OF INVENTION: Protective Plasmodium Falciparum
TITLE OF INVENTION: Hybrid Proteins which Contain Part-Sequences of the Malaris
TITLE OF INVENTION: Attigens HRPII and SERP, the Preparation and Use Thereof
NUMBER OF SEQUENCES:
ADDRESSEE: Finnegan, Henderson, Farabow, Garrett &
ADDRESSEE: Dunned.
                                                                                                                                                                                        84 І ОКІККІНІНН-- ОНОННЯ ОНЕННЯ ОНЕКНЯ ОНЕННЯ ОНЕННЯ ОНЕННЯ НІКН----- 134
                                                                                                                                                                                                                                                     135 -----HDSDSSGKDPRKALCPD-----HDSDSSGKDPRNSQGKG 165
                                                                                                                                                                                                                                                                                                                                            166 AHRPEHASGRRNVKDSVSASEVTSTVYNT----VSEG----THFLETIETPRPGKLFPKD 217
                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                 58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3.6%; Score 145.5; DB 1; Length 189;
                                                                      Length 337;
                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: Washington
STATE: D.C.
ZIP: 2005-3315
COMPUTER: EACH.: MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/152,922A
FILING DATE: 16-NOV-1993
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION DATA
PRIOR APPLICATION DATA
APPLICATION NUMBER: US 07/806,471
FILING DATE: 13-DEC-1991
CLASSIFICATION: 424
ATTORNEY AGENT INFORMATION:
NAME: Binaudi, Carol P.
REGISTRATION NUMBER: 32,220
                                                                    Score 154; DB 3;
Pred. No. 2.7e-06;
                                                                                                                 15; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                    218 VSSSTPPSVTSKSRVSRLAGRKTNESVSEP 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              285 -----POFTPKVIESLAKNTKVNVGQLDP 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Suite 700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; Sequence 6, Application US/08152922A; Patent No. 5395614; GENERAL INFORMATION;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Dunner
STREET: 1300 I Street, N.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-408-4000
                                                                    Query Match 3.8%;
Best Local Similarity 25.7%;
Matches 54; Conservative 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            : 189 amino acids
amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            202-408-4400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS LENGTH: 189 amino aci
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; MOLECULE TYPE: peptide US-08-152-922A-6
MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 8
US-08-152-922A-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX:
         ; MULECULE 11
US-09-456-287-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                              δy
                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                        δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                    _{Q}^{Q}
                                                                                                                                                                                                                                                                                                                                                                                                                                 84 IDKIKRIHIHH--DHDHHSDHEHHSDHERHSDHEBHSDHEHHSDHDHHSHNH----- 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            111 LSKAHHEHFHEDGDHDHDHKHEHKHDHKHDHCHDHCHEHKHDHEHFHDHDHDHEGLTTNW 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---HDSDSSGKDPRNSQGKG 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   171 HVWYSPAISKIVAQKVADKLTAQFPDKKALIAQNLSDFNRTLAEQSEKITAQLANVKDKG 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             166 AHRPEHASGRRNVKDSVSASEVTSTVTNT----VSEG----THFLETIETPRPGKLFPKD 217
                                                                                                                                                                                                                                                                                                                                                                                       58;
                                                                                                                                                                                                                                                                                                                                          Length 337;
                                                                                                                                                                                                                                                                                                                                                                                       83; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: LINGWOOD, Clifford A.
TITLE OF INVENTION:
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
ADDRESSEE: Burns, Doane, Swecker & Mathis, L.L.P.
STREET: 1737 King Street, Suite 500
CITY: Alexandria
STREET: 1747 King Street, Suite 500
CITY: Alexandria
STREET: Virginia
STATE: Virginia
COUNTY: United States
LIP: Z2314-2756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/09/456,287
                                                                                                                                                                                                                                                                                                                                        Query Match 3.8%; Score 154; DB 3; Best Local Similarity 25.7%; Pred. No. 2.7e-06; Matches 54; Conservative 15; Mismatches 83.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ------AASGKNKRKALCPD------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        218 VSSSTPPSVTSKSRVSRLAGRKTNESVSEP 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                285 -----POFTPKVIESLAKNTKVNVGQLDP 308
                                                                                                              032609-001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         032609-001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/686,528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 2, Application US/09456287 Patent No. 6218147
           CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Rea, Teresa Stanek
REGISTRATION NUMBER: 30,427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30,427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Rea, Teresa Stanek
REGISTRATION NUMBER: 30,4
REFERENCE/DOCKET NUMBER: (
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                       REFERENCE/DOCKET NUMBER:
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
26-JUL-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Rea, Teresa Stanek
                                                                                                                                                                              LENGTH: 337 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGIH: 337 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: linear
                                                                                                                                                                                                                                                                      ; MOLECULE TYPE: protein US-08-686-528A-2
                                                                                                                                                                                                                                                   TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-456-287-2
                                                                                                                                                                                                                                                                                                                                                                                  Matches
```

g

δŏ

g δŽ

셤 δŽ

```
264 CFNASKLLTSHGMGIQVPLNATEFNYLCPAJINQID----ARSCLIH---TSEKKAEIPP 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    317 KTY--SLQIAWVGGFIAISIISFLSLLGVILVPLM--NRVFFKFLLSFLVALAVGTLSGD 372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         373 AFLHLLPHSHASHHHSHSHSEPAMEMKRGPLFSHLSSQNIEESAYFDSTWKG----LTAL 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 429 GGLYFWFLVEHVLTLIKQFKDKKKKRNQKKPENDDDVEIKKQLSKYESQLSTNEEKVDTDD 488
                                                                                                                                                                                                                                                                                         213 VIIGISLGA--SQSIDTIKPLMAALSFHQFFEGIGLGGCISLADMKSKSTVLMATFFSVT 270
                                                                                                                                                                                                                                                                                                                                                                                                       | ||: |: |: |: |: | |: | |: | |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100 GEVHILPDA---------FERISSPCLEDTTAGKFPFAGFVAMLSAM 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                489 RTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNETVPRGCKNKCHSHFHDTL 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         489 RTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTL 548
                                                                                                                                                          668 AYLGMATGI----FIGHYAEN----VSMWIFALTAGLFMYVALVDMV-----PEMLHN 712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           549 GOSDDLIHHHHDYHHILHHHHQNH-HPHSHSQRYSREELKDAGVATLAWMVIMGDGLHN 607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   608 FSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLYNALSAML 667
                                                                                                                           549 GQSDDLIHHHHDYHHILHHHHHQNH-HPHSHSQRYSREELKDAGVATLAWMVIMGDGLHN 607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        49 KLKLGSIALLLVAGGVGVS----LPLIGKRIPALQPENDIFF-----MVKAFAAGVILCT 99
                                                                                                                                                                                                                                                608 FSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLYNALSAML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
APPLICANT: Guerinot, Mary Lou et al.
TITLE OF INVENTION: METAL-REGULATED TRANSPORTERS AND USES THEREFOR FILE REFERENCE: DCI NUMBER: US/09/107,858
CURRENT APPLICATION NUMBER: US/09/107,858
EARLIER APPLICATION NUMBER: 08/758,621
BARLIER FILING DATE: 1996-11-27
NUMBER OF SEQ ID NOS: 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3.6%; Score 143.5; DB 3;
18.6%; Pred. No. 3e-05;
tive 74; Mismatches 145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          713 DASDHGCSRWGYFFLQNA --- GMLLGFGIMLLISIF 745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            145 FATGYYKRQHFSNNHGSKQVNVVVDEEE------
                                               145 FATGYKRQHFSNNHGSKQVNVVVDEEE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 4, Application US/09107858 Patent No. 6162900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; ORGANISM: Arabidopsis thaliana US-09-107-858-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 3.69
Best Local Similarity 18.69
Matches 96; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          138 GTLMI----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 10
US-09-107-858-4
                                                                                                                                                                                    173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 4
                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                 QΣ
                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ωb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΔ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÿ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                     q
                                                                                                                        QΫ
                                                                                                                                                                                                                                                0y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 264 CFNASKLLISHGMGIQVPLNATEFNYLCPAIINQID----ARSCLIH---TSEKKAEIPP 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                317 KTY---SLQIAWVGGFIAISIISFLSLLGVILVPLM---NRVFFKFLLSFLVALAVGTLSGD 372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        373 AFLHILPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTWKG----LTAL 428
                                                                                           91 HIHH----DHDHHSDHEHHSDHERHSDHEHHSDHEHHSDHDHH---SHHNHAASGKNKRK 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----FERLSSPCLEDTTAGKFPFAGFVAMLSAM 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEKVDTDD 488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----DT 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6 CFSATTMLR-------ICVVLIICLHMCCASSDCTSHDDPVSQDEAEKAT
                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Guerinot, Mary Lou, and Eide, David J.
IILLE OF INVENTION: Metal-Regulated Transporters and Uses Therefor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels 201;
                                     7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 3.6%; Score 143.5; DB 2; Length 355; Best Local Similarity 18.6%; Pred. No. 3e-05; Matches 96; Conservative 74; Mismatches 145; Indels 201
                                     Indels
                                                                                                                                                                                                                144 ALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRRNVKDSVSAS 185
                                                                                                                                                                                                                                                                            67 нааданнааданнааданнааданнааданнааданнааданнаа 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/758,621
   6.9e-06;
ches 52;
      Pred. No. 6.9e; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DCI-099CP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ZIP: 02109-1875
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
APPLICATION NURBER: 60/018,578
FILING DATE: 29-MAY-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E: LAHIVE & COCKFIELD 60 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 4, Application US/08758621
Patent No. 5846821
Similarity 28.4%; Pr. 29; Conservative 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              39,030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO: 4: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Silveri, Jean M.
REGISTRATION NUMBER: 39,(
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           355 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (617)227-5941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 2:
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTLMI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |:|:|| :
100 GEVHILPDA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STATE: Mac COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-758-621-4
                                                                                                                                                                                                                                                                                                                                                                                                    US-08-758-621-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               138
      Local
      Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                    쉽
                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ă
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                           ğ
                                                                                                                                                                                                                ð
```

```
GENERAL INPORMATION:

APPLICANT: Lynn Doucette-Stamm et al

APPLICANT: Lynn Doucette-Stamm et al

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO STAPHYLOCOCC

TITLE OF INVENTION: DELDERMIDIS FOR DIAGNOSTICS AND THERAPEUTICS

FILE REFERENCE: GTC-007

CURRENT APPLICATION NUMBER: US 60/064,964

PRIOR APPLICATION NUMBER: US 60/064,964

PRIOR APPLICATION NUMBER: US 60/055,779

PRIOR FILING DATE: 1997-08-14

SEQ ID NO 4749

LENGTH: 466
TITLE OF INVENTION: ENCODING OMPC DERIVED FROM E.COLI AS CELL SURFACE ANCHORING TITLE OF INVENTION: MOTIF FILE OF INVENTION: MOTIF FILE REFERENCE: HYLEES9.001Aus CURRENT PERINGE: HYLEES9.001Aus CURRENT FILING DATE: 2000-02-18 PRIOR APPLICATION NUMBER: KR 10-1999-0005773 PRIOR FILING DATE: 1999-02-22 NUMBER OF SEQ ID NOS: 13 SOFTWARE: FRASEQ for Windows Version 4.0 SEQ ID NO 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                247 -----SGDSAPFKRQONIINSNLGHRNQNNINQFIWNKNGFFKSQNNTEHRLNSS 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        83 GIDKIKRIHIHHD------HDHHS-----DHEHHS------DHERHS-----D 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     114 HEHHS-----DHEHHS-----DHEHHS------DHDHHS------HHNHAASGKNKRKALCPD--HDS 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     95 DHDHHSDHEHHSDHERHSDHEHHSDHEHHSDHDHHSHHNHAASGKNKRKALCPDHDSDS- 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               154 SGKDPRNSQGKGAH---RPEHASGRRNVKDSVSASEVTSTVYNTVSEG--THFLETIETP 208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             209 RPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKTNESVSE---PRKGFMYSRNTNENPQECF 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28 GLDPSGHHHHHHSGLDPSGHHHHHSGLDPSGHHHHHHSGLDPSGHH 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                         63;
                                                                                                                                                                                                                                                                                                                                                                                                             Length 167;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3.4%; Score 135; DB 4; Length 466; 23.5%; Pred. No. 0.0003; Live 36; Mismatches 99; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                        Score 138.5; DB 3;
Pred. No. 2.7e-05;
1; Mismatches 38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          266 NASKLLTSHGMGIQVPLNATEFNYLCPAIINQI 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                152 DSSGKDPRNSQGKGAHRPEHASGRRNVKDS 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            142 HHSGLDP----SGHHHHHHSGLEDILQS 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 4749, Application US/09134001C Patent No. 6380370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Staphylococcus epidermidis
                                                                                                                                                                                                                                                                                                                         ; OTHER INFORMATION: Histidine linker. US-09-507-323B-13
                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 3.4%;
Best Local Similarity 30.0%;
Matches 45; Conservative
                                                                                                                                                                                                                                                                                       ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 23.5 Matches 50; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-134-001C-4749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-134-001C-4749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                    TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ----N 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       668 AYLGMATGI----FIGHYAEN----VSMWIFALTAGLFMYVALVDMY-----PEMLHN 712
                                                 271 APLGIGLGMSSGLGYRKESKEAIMVEGMLNAASAGILIYMSLVDLLATDFMNPRLQSN 330
                                                                                                                                                                                                                                                                                                                                                                   Recombinant DNA Clone Containng a Genomic Fragment of PfHRP-II Gene from Plasmodium Falciparum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          134 HAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRRNVKDSVSASE 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   153 НААҮАННАННААДАННААДА------ННААУАННАННААДАННААДАННАТД 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 309;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            91 ИІНН---- DHDHHSDHEHHSDHERHSDHEHH---SDHEHHSDHDHHSHH-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                42; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Choi, Jong Hyun
APPLICANT: Lee, Sang Yup
APPLICANT: Lex, 2 hang Yup
APPLICANT: Xu, 2 hand Yup
TITLE OF INVENTION: EXPRESSION VECTORS COMPRISING A GENE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: Petentin Release #1.0, Version #1.25
SOFTWARE: Petentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
PPLICATION NUMBER: US/08/161/406
FILING DATE: 06-DEC-1993
CLASSIFICATION: 435
ATTORNEY/AGBT INFORMATION:
NAME: MUTPHY JT., Gerald M.
REGISTRATION NUMBER: 28,977
FREERRENCE/DOCKET NUMBER: 1173-448P
FREECOMMUNICATION INFORMATION:
TELECHONE: 703-205-8050
                                                                                               713 DASDHGCSRWGYFFLQNA---GMLLGFGIMLLISIF 745
                                                                                                                             Query Match 3.5%; Score 140; DB 1; Best Local Similarity 27.4%; Pred. No. 5.2e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE: Birch, Stewart, Kolasch & Birch STREET: P.O. Box 747
CITY: Falls Church
STATE: Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31; Conservative 16; Mismatches
                                                                                                                                                                                                                                                          Sequence 2, Application US/08161406
Patent No. 5476785
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Wellems, Thomas
APPLICANT: Howard, Russell J.
TITLE OF INVENTION: Recombinant DP
TITLE OF INVENTION: Genomic Fragme, TITLE OF INVENTION: Genomic Fragme, NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
WEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 13, Application US/09507323B Patent No. 6274345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGIH: 309 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; TOPOLOGY: linear; MOLECULE TYPE: protein US-08-161-406-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22040-3487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: Choi, Jo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 12
US-09-507-323B-13
                                                                                                                                                                                                                RESULT 11
US-08-161-406-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                           331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                 g
                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                               9
```

```
90 IHIH------HDH-----DHHSDHEHH------SDHERHSDHEHHSDHEHHSD 125
                                                                                                                                                                                                                                                                                                                                                                                                                                            2 VHKHRVFDYESSGHDHLNGHGGHHRRHRHHDGCDHGLGHLNDHDHHLHRHHNDCGHGLD 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   126 H----DHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEH 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 3.3%; Score 134; DB 4; Length 339; Best Local Similarity 29.1%; Pred. No. 0.00023; Matches 32; Conservative 5; Mismatches 31; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Search completed: September 12, 2003, 22:19:28 Job time : 32 secs
; ORGANISM: Acinetobacter baumannii
US-09-328-352-6551
                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 6551, Application US/09328352
Patent No. 6562958
GENERAL INFORMATION:
FITTLE OF INVENTION: BAUMANNI FOR DIAGNOSTICS AND THERAPEUTICS
FITE OF INVENTION: BAUMANNI FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: GTC99-03PA
CURRENT APPLICATION NUMBER: US/09/328,352
CURRENT FILING DATE: 1999-06-04
NUMBER OF SEQ ID NOS: 8252
SEQ ID NO 6551
LENGTH: 339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  54 QYHLQQLFYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHHDHDHHSDHEHHSDHERHSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5 MITKFCLICLIFFIFHHCNHCHE-EHDHGPEALHRQHRGMTELEP---SKFSKQAAENEK 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MARKLSVILILTFALSVINPLHELKAAAFPQTIEK-----ISPNWESGINVDLAISTR 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels 38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 3.3%; Score 134; DB 4; Length 126; Best Local Similarity 26.3%; Pred. No. 4.6e-05; Matches 40; Conservative 23; Mismatches 51; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Dunas Mille Edwards, Jean-Bapuiste
APPLICANT: Dunas Mille Edwards, Jean-Bapuiste
APPLICANT: Bougueleret, Lydie
TITLEOF: INVENTION EXTENDED CDNAS FOR SECRETED PROTEINS
FILE REFERENCE: 31. USS.CIP
CURRENT APPLICATION NUMBER: US/09/663,600A
CURRENT APPLICATION NUMBER: 05/191,997
PRIOR APPLICATION NUMBER: 09/191,997
PRIOR PILING DATE: 1998-11-13
PRIOR FILING DATE: 1997-11-13
PRIOR FILING DATE: 1997-11-217
PRIOR PELING DATE: 1997-12-17
PRIOR APPLICATION NUMBER: 60/069,957
PRIOR APPLICATION NUMBER: 60/061,16
PRIOR PILING DATE: 1998-02-09
PRIOR FILING DATE: 1998-04-13
PRIOR FILING DATE: 1998-04-13
PRIOR PILING DATE: 1998-04-13
PRIOR APPLICATION NUMBER: 60/099,273
PRIOR APPLICATION NUMBER: 60/099,273
PRIOR PILING DATE: 1998-09-04
NUMBER OF SEQ ID NOS: 229
SOFTWARE: PALENT. IN 00 10.2
LENGTHENT. 126
     :: | | :: | | :| | :| | :| | | :| | | :| | | :| | | :| | | :| | | :| | | :| | | :| | | :| | | :| | | :| | | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 114 HEHHSDHEHHSDHDHHSHHNHAASGKNKKKAL 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----DLGHDHVSHLRYFGSSRGKAFSL 125
                                                                                                                                                                                                                                                                                      Sequence 102, Application US/09663600A
Patent No. 6573068
GENERAL INFORMATION:
APPLICANT: Dumas Milne Edwards, Jean-Baptiste
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; NAME/KEY: SIGNAL
; LOCATION: -20..-1
US-09-663-600A-102
                                                                                                                                                                                                    RESULT 14
US-09-663-600A-102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 15
US-09-328-352-6551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ά
                                                        a
```

```
(without alignments)
1899.377 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                US-09-642-034-5
4024
1 MARKLSVILILTFALSVTNP.....FGIMLLISIFBHKIVFRINF 755
                                                                                                                                                                                           September 12, 2003, 22:18:56; Search time 58 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /cgn2_6/ptcdata/2/pubpaa/US07_NBW_PUB.pep:*
/cgn2_6/ptcdata/2/pubpaa/PCTUS_PUBCOMB.pep:*
/cgn2_6/ptcdata/2/pubpaa/NS08_NBW_PUB.pep:*
/cgn2_6/ptcdata/2/pubpaa/US08_NBW_PUB.pep:*
/cgn2_6/ptcdata/2/pubpaa/US09A_PUBCOMB.pep:*
/cgn2_6/ptcdata/2/pubpaa/US09A_PUBCOMB.pep:*
/cgn2_6/ptcdata/2/pubpaa/US09C_PUBCOMB.pep:*
/cgn2_6/ptcdata/2/pubpaa/US09C_PUBCOMB.pep:*
//cgn2_6/ptcdata/2/pubpaa/US09C_PUBCOMB.pep:*
//cgn2_6/ptcdata/2/pubpaa/US09_NBW_PUB.pep:*
//cgn2_6/ptcdata/2/pubpaa/US09_NBW_PUB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ptodata/2/pubpaa/US10A_PUBCOMB.pep:*/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /ptodata/2/pubpaa/US10C_PUBCOMB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
/cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep:*
/cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Published_Applications_AA:*
/cgn2_6/grodata/2/pubpaa/US07_PUBCOMB.pep:*
/cgn2_6/grodata/2/pubpaa/PCT_NEM_PUB.pep:*
//cgn2_6/grodata/2/pubpaa/US06_NEM_PUB.pep:*
//cgn2_6/grodata/2/pubpaa/US06_PUBCOMB.pep:*
GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541936 seqs, 145912426 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                              OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                  BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                        Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Database :
                                                                                                                                                                                                                                                                                                                                                                                      Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Searched:
                                                                                                                                                                                                 Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description		Sequence 264, App	Sequence 52, Appl	Sequence 1531, Ap	Sequence 86, Appl	Sequence 2396, Ap	Sequence 16, Appl	Sequence 16, Appl	Sequence 95, Appl	Sequence 2394, Ap	Sequence 743, App	Sequence 115, App	Sequence 239, App	Sequence 37944, A	Sequence 196, App	95, A
£		US-10-177-293-264	US-10-176-847-52	US-09-925-300-1531	US-09-789-561-86	US-10-017-161-2396	US-09-965-529-16	US-09-969-680A-16	US-10-097-340-95	US-10-017-161-2394	US-10-102-806-743	US-10-050-704-115	US-10-050-704-239	US-09-864-761-37944	US-10-319-763-196	US-09-946-374-95
98	1	15	12	10	6	12	10	11	15	12	15	15	15	σ	15	11
% Query Match Length DB		749	752	397	831	1232	647	647	626	737	204	354	383	292	150	307
% Query Match		98.6	97.1	49.0	33.2	15.9	13.5	13.5	10.0	10.0	8.6	5.8	5.8	₽.8	4.1	4.1
Score		3968	3906	1972	1337	640	543.5	543.5	404	401.5	395.5	234	234	192	166	166
Result No.		7	7	٣	4	S	9	7	80	ወ	10	11	12	13	14	15

Appl	Appl	App	Appl	App	App	App	App	Appl	Appl	App	App	App	App	App	App	App	App	App	App	App	App	App	App.	App.	App.	App.	, App	App.	App
		N		OI.	O	\sim	\sim			\sim	\sim	N	$^{\circ}$	262,	$^{\circ}$	262,	262,	262,	262,	262,	262,	262,	262,	262	262,	262	262,	262,	262,
Sequence	Sequence	Sequence	Sequence	Seguence	Sequence	Sednence	Seguence	Sequence	Sequence	Sequence	Sequence	Sednence	Sednence	Seguence	Sequence	Seguence	Sequence	Sequence	Sequence	Sequence	Sequence	Sednence	Sednence	Sednence	Sednence	Sednence	Sednence	Sequence	Sequence
-95		262		262	262	262	262	ð				9	262	262	262	262	9	262	262	262	262	262	262	262	262	262	262	262	262
87A	-006-130A	-199-672-	06-172A	-187-749-	7	42	-747-	10-015-392A	10-017-253A	173-689-	173-690-	10-173-691	10-173	10-173-694-	173-698-	173-699-	10-173-707-	10-174-569-	10-174-5	10-174-587-	10-174-589-	10-174-59	10-175-736-	10-175-742-	10-175-744-	10-175-74	10-175-74	10-175-7	10-175-754-
us-	GS-	GS-	ns-	ns-	us-	us-	US-	ns-	us-	US-1	us-	CS-	us-	us-	us-	ns-	US-1	us-	ns-	us-	us-	us-	ns-	ns-	ns-	us-	ns-	ns-	-Sn
12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
307	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307
4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

```
Sequence 264 Application US/1017293
Sequence 264 Application US/1017293
Sequence 264 Application US/1017293
Sequence 264 Application No. US/2030124128A1
SEMBRAL INFORMATION:
SEPTICANT: Lillie, James
APPLICANT: Gennaverpu, Manjula
APPLICANT: Gennaverpu, Manjula
APPLICANT: Gennaverpu, Manjula
APPLICANT: Metack, Shubhangi
APPLICANT: Metack, Shubhangi
APPLICANT: Metack, Shubhangi
APPLICANT: Wonden, Sebastian
APPLICANT: Wonden, Sebastian
APPLICANT: Wonden, John
APPLICANT: Wonden, John
APPLICANT: Monden, John
APPLICANT: Metack, Sebastian
APPLICANTON NUMBER: US 60/306,501
PRIOR FILING DATE: 2001-06-27
PRIOR PRIOR PRICANTON NUMBER: US 60/305,502
PRIOR PRIOR METACK, SEBASTIAN
PRIOR PRIOR PRIOR MUMBER: US 60/305,502
PRIOR PRIOR PRIOR MUMBER: US 60/305,505
PRIOR PRIOR PRIOR MUMBER: US 60/305,505
```

```
Query Match
Best Local Similarity 99.2'
Matches 736; Conservative
                                                                                              TYPE: PRT
CORGANISM: Homo sapiens
US-10-176-847-52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 3
US-09-925-300-1531
                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                 175
                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                       235
                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                            295
                                                                                                                                                                                                                                                                                                                                                                                                                                    355
                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          715
                                                                                                                                                                             ÖΔ
                                                                                                                                                                                            q
                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                       \delta
                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                            QΥ
                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                   Ωÿ
                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                          \delta \lambda
                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                             δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ΩŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q\underline{\gamma}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ωÿ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  099
                                                                                                                                                                            120
                                                                                                                                                                                              120
                                                                                                                                                                                                                                   174
                                                                                                                                                                                                                                                                          234
                                                                                                                                                                                                                                                                                                                                                       354
                                                                                                                                                                                                                                                                                                                                                                                     TWKGLTALGGLYFWFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTN 480
                                                                                                                                                                                                                                                                                                                                                                                                                            EEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKC 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFWYVALVDMVPEMLHNDASDHGCS 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   294
                                                                                                                                    9
                                                                                                                                                        09
                                                                                                                                                                                                                                                                                                                                              HILLING SDDLIHHHDYHTLAHHHQNHHPHSSRSCRELKDAGVATLAWWYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MARKLSVILILTFALSVINPLHELKAAAFPQTTEKISPNWESGINVDLAISTRQYHLQQL
                                                                                                                                                                                       FYRYGENINGLSVEGFRKILLQNIGIDKIKRIHIHHHHHSDHEHHSDHERHSDHEHHSDH
                                                                                                                                                                                                                             HSHFHDTLGQSDDLIHHHHDYHHILHHHHQNHHPHSHSQRYSREELKDAGVATLAWWYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLY
                                                                                                                                                                            FYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHHDHDHHSDHEHHSDHERHSDHEHHSDH
                                                                                                                                                                                                                EHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRRNVKD
                                                                                                                                                                                                                                                       SVSASEVISIVINIVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT
                                                                                                                                                                                                                                                                                              NESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDA
                                                                                                                                                                                                                                                                                                                                   RSCLIHTSEKKABIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF
                                                                                                                                                                                                                                                                                                                                                                          IVALAVGTLSGDAFLHLIPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDS
                                                                                                                                    1 MARKLSVILILTFALSVTNPLHELKAAAFPQTTEKISPNWESGINVDLAISTRQYHLQQL
                                                                                                                   Gaps
                                                                                                                  9
                                                                                               Length
                                                                                                                   Indels
                                                                                               15;
                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RWGYFFLQNAGMLLGFGIMLLISIFEHKIVFRINF 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB
                                                                                                                   0; Mismatches
                                                                                             Score 3969;
Pred. No. 0;
       PRIOR FILING DATE: 2002-05-14
NUMBER OF SEQ ID NOS: 506
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 52, Application US/10176847 Publication No. US20030068636A1 GENERAL INFORMATION:
APPLICANT: Veiby, Petter Ole
                                                                                             98.6%;
PRIOR APPLICATION NUMBER: US
                                                                                                                   749; Conservative
                                                        TYPE: PRT
CORGANISM: Homo sapiens
US-10-177-293-264
                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 2
US-10-176-847-52
                                                LENGTH: 749
                                                                                              Query Match
Best Local Si
Matches 749,
                                                                                                                                                                                                                                                                                                                                                       295
                                                                                                                                                                                                                                                                                                                                                                                            355
                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                   415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                            61
                                                                                                                                                                                             61
                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                         175
                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                 235
                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                            δŽ
                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                             QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                  pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                      δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                     ğ
                                                                                                                                                      g
                                                                                                                                                                            ğ
                                                                                                                                                                                           g
                                                                                                                                                                                                                Qγ
                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                   δŽ
                                                                                                                                                                                                                                                                                                                                                                         δŽ
```

BREAS TILLE OF INVENTION: COMPOSITIONS, KITS, AND METHODS FOR TITLE OF INVENTION: IDENTIFICATION, ASSESSMENT, PREVENTION, AND THERAPY OF TITLE OF INVENTION: MOVERAN CANCER FILE REFERENCE: MRI-039 CORRENT APPLACATION NUMBER: US/10/176,847 CURRENT FILING DATE: 2002-06-21 NUMBER OF SEQ ID NOS: 112
SEQ ID NOS: 112
SEQ ID NO 52
LENGTH: 752 SVSASEVISTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT 240 361 LVALAVGTLSGDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDS 420 TWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTN 480 EEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNETVPRGCKNKC 540 HSHFHDTLGQSDDLIHHHHDYHHILHHHHQNHHPHSHSQRYSREELKDAGVATLAWMVI 600 FYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHHDHDHHSDHEHHSDHERHSDH 120 EHHSDHDHHSHHNHAASGKNKRKALCPDHDSDSSGKDPRNSQGKGAHRPEHASGRRNVKD 180 LVALAVGTLSGDAFLHLLPHSHASHHRSHSHEEPAMEMKRGPLFSHLSSQNIEBSAYFDS 414 601 MGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLY 660 661 NALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVDMVPEMLHNDASDHGCS 720 SVSASEVISIVYNIVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKT 234 9 FYRYGENNSLSVEGFRKLLONIGIDKIKRIHIHHHHDHDHHSDHERHSDHERHSDHEHHSDH NESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDA RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF Gaps 9 Length 752; Indels 15; . 0 DB 97.1%; Score 3906; D 99.2%; Pred. No. 0; ive 0; Mismatches RWGYFFLQNAGMLLGFGIMLLI 742 RWGYFFLONAGMLLGFGIMLLI 736

```
148 DHDSD--SSGKDPRNSQGK----GAHRPEHASGRRNVKDSVSASEVISTVYNTVSEGTH 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             443 LVALAVGTMSGDALLHILPHSQGGHDHSHQHA-----GHGHSHGHESNKFLEE---TDA 494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421 TWKGLTALGGLYFWFLVEHVLTLIKQFKDKKKKNQK--KPENDDDVEIKKQLSKYESQLS 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SDLKETGIANIAWAVIMGDGIHNFSDGLAIGAAFSAGLFGGISTSIAVFCHELPHELGDF 718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       201 FLE------TIETPRPGKLFPKDVSSSTPPSVTSKSRVSRLAGRKTNESVSEPRK 249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 250 GFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDARSCLIHTSE 309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      327 DL----NEDDHHHECLNVTQLLKYYGHGANSPISTDLFTYLCPALLYQIDSRLCIEHFDK 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  554 PDSDWLQLKPLAGTDDSVVSEDRLNETELTDLEGQQESPPKNYLCIEEEKIIDHSHSDGL 613
                                                                                                                                                                                                                                                                                                                                                                                                                                                         DH-----HSHHNHAAS------GKNKRKALCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | : | | : | | 282 LPERNGHDPGRGHQDLDPDNEGEL------RHTRKREAPHVKNNAIISLRK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                383 LLVEDINKDKNLVPEDEANIGASAWICGIISITVISLESLLGVILVPIINQGCFKFLLTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MARKLSVILILTFALSVTNPLHELKAAAFPQTTEK-----ISPNWESGINVDLAISTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HOSHHEHHSDHEHHSDH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          310 KKAEIPPKTYSL------QIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361 LVALAVGTLSGDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              479 INEEKVD-----IDDRIEGYLRADSQEPSHFDSQQPA-----VLEEEEVMIAHAHPQEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           528 YNEYVPRGCKNKCHSHFHDTLGQSDDLIHHHHDYHHHHHHHHHHHHHHHHHHHHHHHSHSQR---YSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HT------IHEHDLHAAAH---NHRGENKTVLRKHNHQWHHKHSHGPCHSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       585 EELKDAGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            54 QYHLQQLFYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHHD---HDH--HSD-----
                                                                                                                                                                                                                                                                                                                                                                                             204;
                                                                                                                                                                                                                                                                                                                                                         Length 831;
                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                       33.2%; Score 1337; DB 9; 35.5%; Pred. No. 2.7e-108;
        Human secreted proteins
                                                                                                                                                                                                                                                                                                                                                                         Best_Local Similarity 35.5%; Fred. NO. 2.75
Matches 317; Conservative 131; Mismatches
                                  CURRENT APPLICATION NUMBER: US/09/789,561
CURRENT FILING DATE: 2001-02-2
PRICA APPLICATION NUMBER: PCT/US00/24008
PRICA FILING DATE: 2000-08-31
PRICA FILING DATE: 1999-09-03
PRICA APPLICATION NUMBER: 60/152,315
PRICA FILING DATE: 1999-09-03
PRICA FILING DATE: 1999-09-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       102 ---HEHHSDHERH-------
                                                                                                                                                                                               NUMBER OF SEQ ID NOS: 194
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 86
                          PZ043P1
                                                                                                                                                                                                                                                                                              ORGANISM: Homo sapiens
    TITLE OF INVENTION:
FILE REFERENCE: PZ0
                                                                                                                                                                                                                                                                                                                US-09-789-561-86
                                                                                                                                                                                                                                                          LENGTH: 831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 614
                                                                                                                                                                                                                                                                            TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       \Omega
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΣ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY: SITE LOCATION: (358)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181 SVSASEVISTVINIVSEGIHFLEIIETPRPGKLFPKDVSSSTPPSVISKSRVSRLAGRKT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301 RSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNRVFFKFLLSF 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Xaa equals any of the naturally occurring L-amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Xaa equals any of the naturally occurring L-amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LOCATION: (181)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NESVSEPRKGFMYSRNTNENPQECFNASKLLTSHGMGIQVPLNATEFNYLCPAIINQIDA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTN 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQEVYNETVPRGCKNKC 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361 LVALAVGTLSGDAFLHLLPHSHASHHHSHSHEPAMEMKRGPLFSHLSSQNIEESAYFDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             49.0%; Score 1972; DB 10; Length 397; 98.7%; Pred. No. 1.5e-164; 1. Mismatches 4; Indels 0;
                                                                                              TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies FILE REFERENCE: PA101
                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/925,300
CURRENT FILING DATE: 2010-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05988
PRIOR FILING DATE: 2000-03-08
PRIOR PRICICATION NUMBER: 60/124,270
PRIOR PRICICATION NUMBER: 60/124,270
PRIOR PILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 1890
SCOFTARRE: PatentIn Ver: 2.0
LENGTH: 397
Sequence 1531, Application US/09925300
Patent No. US2020151681A1
GENEMATION:
APPLICAMT: Craig Rosen,
APPLICANT: Steve Ruben
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HSHFHDTLGQSDDLIHHHDY 561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 86, Application US/09789561 Batent No. US20020064818al GENERAL INFORMATION: APPLICANT: Ni et al.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 98.7
Matches 376; Conservative
                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                           LOCATION: (179)
OTHER INFORMATION:
NAME/KEY: SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (180)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; OTHER INFORMAT:
US-09-925-300-1531
                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 4
US-09-789-561-86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \tilde{Q}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                d
```

442 420 553

584

0.00 0.00	RESULT 6 US-09-965-529-16 US-09-965-529-16 Sequence 16, Application US/09965529 Publication No. US20020182671A1 GENERAL INFORMATION: APPLICANT: ALL, Preeti APPLICANT: TANG, Y. Tom APPLICANT: BURFOKD, Nail APPLICANT: BAGGHN, Mariah R. APPLICANT: BAGGHN, Mariah R. APPLICANT: DV, Dyung Aina M. APPLICANT: PATTERSON, Chandra TITLE OF INVENTION: MEMBREANE ASSOCIATED PROTEINS	; FILE REPERINCE: PF-0731 USA ; CURRENT APPLICATION NUMBER: US/09/965,529 ; CURRENT FILING DATE: 2001-09-26 ; PRIOR APPLICATION NUMBER: 60/149,641; 60/164,203; PCT/US00/22315 ; PRIOR PLING DATE: 1999-08-17; 1999-11-09; 2000-08-14 ; SOFTWARE: PERL PROGRAM ; SOFTWARE: PERL PROGRAM	; TYPE: PT ; ORGANISM: Homo sapiens ; PRATURE: ; NAME/KEY: misc_feature ; OTHER INFORMATION: Incyte ID No. US20020182671A1 1336728CD1 US-09-965-529-16	Query Match 13.5%; Score 543.5; DB 10; Length 647; Best Local Similarity 26.5%; Pred. No. 8.9e-39; Matches 178; Conservative 99; Mismatches 201; Indels 193; Gaps 23; QY 130 SHHNHAASGKNKRRALCPDHDSDSSCKDPRNSQCKGABRPEHAS 173 : : : :	OY 174 GRRNVKDSVSASEVTSTVYNTVSEGTHFLETIETPREGKLFPKDVSSSTPPSYTSKSR 231	QY 282 INATERNYLCPALINQIDARSCLIHTSEKRAEIPPKTYSLQIAWVGGFIAISIISFLS 339 : : :	QY 399 KRGPLFSHLSSQNIEBSAYFDSTWKGLTALGGLYFWFLVEHVLTLIKQFKDKKKKNQKKF 458
OY 645 AVILKAGATVKQAVLYNALSAMLAYLGMATGIFIGHYAENVSMWIPALTAGLEMYVALVD 704	ASAL AKIYI ABURA NVENTICAL SINCE: (SINCE) LICATION NG DATH SEQ ID Patent: 396 232 HOMO (HOMO)	Query Match Best Local Similarity 26.1%; Pred. No. 8e-47; Matches 189; Conservative 107; Mismatches 181; Indels 246; Gaps 22; Qy 40 WESGINVDLAISTRQYHLQQLFYRYGENNSLSVEGFRKLLQNIGIDXIKRIHIHHDHD 97	QY 98 HISDHEHHSDHERHSDHEHHSDHEHHSDHDHHSHNHAASGKNKRKALCPDHDSDSSGKD 157 Db 75GQHGPLTGRAASPAADNST 93 QY 158 PRNSQGKGAHRPEHASGRRNVKDSVSASEVTSTVYNTVSEGTHFLETTETPREGKLF 214 Db 94	DECFNASKLLTSH : : :DCLNGSQLLVNF IYSLQIAWVGGFI IYSLQIAWVGGFI	331 AISIISELSLIGVILVPLANRVFFKFLISFLVALAVGTLSGDAFLHLLPHSHASHHHSHS 1:::	451 KKKNQKKPENDLGFTGLSVLGGLFLLETVLENMLGLLKHT 451 KKKNQKKPENDDVEIKKQLSKYESQLSTNEEKVDTDDRTEGYLRADSQEPSHFDSQQPA :	359 L 343

DD 228 MQRLGVGREAHSDHSHRHRGASSRDPVPLISSSNSSSVWDTVCLSARDVWAAIGLSEQAG 287 QY 282 INATEFNYLCPAIINQIDARSCILHTSEKRAEIPPKTYSIQIAWYGGFIAISIISFLS 339 ; : :	0.0 SO2 SHFDSQQPAVLEEEEVMLAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQSDDLIHHHHDY	QY 682 AENVSMUTFALTAGLFMYVALYDMYPEMLH-NDASDHGCSRWGYFFLQNAGMLIGFGIML 740 :	## APPLICANT: Amichael MORRISEY ## APPLICANT: Amichael MORRISEY ## APPLICANT: Amichael MORRISEY ## APPLICANT: Amichael MILES ## APPLICANT: Robert C. BAST, Jr. ## APPLICANT: Robert C. BAST, Jr. ## APPLICANT: Rosemarie SCHANDT ## APPLICANT: Xunel SLHANDT ## APPLICANT: Xunel SLHANDT ## APPLICANT: Xunel SLHANDT ## APPLICANT: Xunel GLATT ## APPLICANT: Xunel GLATT ## TITLE OF INVENTION: MORBER: US/10/097,340 ## APPLICANT: MR ASSESSMENT, Prevention, and Therapy of Ovarian Cancer ## TITLE OF INVENTION: MORBER: US/10/097,340 ## CURRENT FILING DATE: 2001-03-14 ## PRIOR APPLICATION NUMBER: 60/276,025 ## PRIOR FILING DATE: 2001-03-26 ## PRIOR APPLICATION NUMBER: 60/275,149 ## PRIOR APPLICATION NUMBER: 60/275,026 ## PRIOR APPLICATION NUMBER: 60/275,026 ## PRIOR APPLICATION NUMBER: 60/274,967 ## PRIOR APPLICATION NUMBER: 60/224,967
	DD 523 WNIGHAISLAVECHELPHELISDEAALLHAGESVROALLENLASALTAFAGELYVALAVG-V 581 QY 682 AENVSMWIFALTAGEFMIVALVDAVPEMLH-NDASDHGCSRWGYFFLONAGMLIGFGIML 740 Bb 582 SEBEAWILAVATGEFIXVALCDMLPAMLKVRDPRPWLLFLLHNVGLIGGWTVLL 636 QY 741 LISIFEHRIVYF 751 Bb 637 LLSIFEBDITF 647 RESULT 7	US-09-969-680A-16 US-09-969-680A-16 Sequence 16, Application US/09969680A Publication No. US20030124649A1 GENERAL INFORMATION: APPLICANT: LAL, Preeti; VUE, Henry APPLICANT: BURFORD, Neil; AZIMZAL, Yalda APPLICANT: BAUGHN, Mariah R.; LU, Dyung Aina M. APPLICANT: BAUGHN, Mariah R.; LU, Dyung Aina M. APPLICANT: BAUGHN, MARMENEN ASSOCIATED PROTEINS FILE REFERENCE: PF-0731-1 USA CURRENT APPLICATION WUMBER: US/09/969,680A CURRENT APPLICATION NUMBER: US/00/22315 PRIOR PILING DATE: 2000-08-14 PRIOR FILING DATE: 1999-08-17 SPRIOR FILING DATE: 1999-08-17 PRIOR FILING DATE: 1999-08-17 PRIOR FILING DATE: 1999-08-17 SOFTWARE PERL PROGRAM	SEQIN NO 16

25;

```
288 VWDTVCLSARDVMAAYGLSEQAGVTPEAWAQLSPALLQQQLSGAC---TSQSR---PPVQ 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HLLPHSHASHHHSHSHEEPAMEMKRGPLFS-----HLSSQNIEESAYFDSTWKG--L 425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  426 TALGGLYFWFLVEHVLILLKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEKVD 485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       448 AMLAGLYAFFLFENLF------475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            486 TDDRTEGYLRADSQEPSHEDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFH 545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 G-----VLAALLDHVRSGSCE-HALPSPQYFVDFVFQQHSSEVPMTLAASTSL 227
                                                                                                                                                                                                                                                                                                                                                                                                                  233 SRLAGRKTNE-----SVSEPRKGFMYSRNTN 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                       228 GGRAGAHTDSRCQLFSLPELSALMQRLGVGREAHSDHSHRHRGASSRDPVPLISSSNSSS 287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              259 ENPQECFNASKLLISHGMGIQVPLNATEFNYLCPAIINQIDARSCLIHTSEKKAEIPPKT 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          319 YSLQIA--WVGGFIAISIISFLSLLGVILVPLMN-RVFFKFLLSFLVALAVGTLSGDAFL 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | : :: | :| :| :| | :| | 342 DQLSQSERYLYGSLATLILCCAVFGLILITCTGCRGVTHYILQTFLSLAVGAVTGDAVL 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           402 HLTP------KVCPHKPATLALRSPPWTPRPCWGCIHTAKRASAHSP-----PGALL 447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             546 DTLGQSDDLIHHHHDYHHILHHHHQNHHP-HSHSQR-------YSREELK 588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   610 EGDGRGRIGLGGEIWNRWAGPGRWAGPHLAGWGDRKQVGRGLEGDFAALLHAGLSVRQAL 669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ------GDFAVLLKAGMTVKQAV
                                                                                                                                                                                                                                                                                                                                    GRRNVKDSVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFP-KDVSSSTPPSVTSKSRV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      589 DAGVATLAWMVIMGDGLHNFSDGLAIGAAFTBGLSSGLSTSVAVFCHELPHEL -
                                                                                                                                                                                                                   243;
                                                                                                                                                                          Length 737;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   659 LYNALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVDMV 706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 476 --DGPCGHSSHSHGGGHSHGVSLQLA-------PSELRQPKPP-
                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies
FILE REFERENCE: PA103PIOL
CURRENT APPLICATION UNBER: US/10/102,806
CURRENT FILING DATE: 2002-03-22
PRIOR APPLICATION NUMBER: 09/925,298
                                                                                                                                                                            Score 401.5; DB 12;
Pred. No. 3.2e-26;
5; Mismatches 205;
                                                                                                                                                                              DB 12;
                                                                                                                                                                                                                                                          SHHNHAASGKNKRKALCPD-----HDSDSSGKDPRNS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 743, Application US/10102806; Publication No. US20030054421A1; GENERAL INFORMATION:
                                                                                                                                                                                                                   95;
                                                                                                                                                                            10.0%;
llarity 23.3%;
Conservative 99
  PRIOR FILING DATE: 2001-06-18
                  NUMBER OF SEQ ID NOS: 2430
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 2394
LENGTH: 737
                                                                                                                       Homo sapiens
                                                                                                                                                                                                 Similarity
                                                                                                                                     US-10-017-161-2394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 10
US-10-102-806-743
                                                                                                                                                                                                                   165;
                                                                                                                                                                                                                                                          130
                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                    174
                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      376
                                                                                                                   ORGANISM:
                                                                                                  TYPE: PRT
                                                                                                                                                                              Query Match
                                                                                                                                                                                                 Local
                                                                                                                                                                                                 Best_Loca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                    \nabla
                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                  50
                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                  20;
                                                                                                                                                                                                                                                                                                                                                       130 SHHNHAASGKNKRKALCPD------HDSDSSGKDPRNS------QGKGAHRPEHAS 173
                                                                                                                                                                                                                                                                                                                                                                                              SHADHLLALLESPKALTPGLSWLLQRMQARAAGQTPKTACVDIPQLLEEAVGAGAPGSAG 155
                                                                                                                                                                                                                                                                                                                                                                                                                                       GRRNVKDSVSASEVTSTVYNTVSEGTHFLETIETPRPGKLFPKDVSSSTPPSVTSK--SR 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G-----VLAALLDHVRSGSCF-HALPSPQYFVDFVFQQHSSEVPMTLAELSAL 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    203 MORLGVGREAHSDHSHRHRGASSRDPVPLISSSNSSSVWDTVCLSARDVMAAYGLSEQAG 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LNATEFNYLCPALINQIDARSCLIHTSEKKAEIPPKTYSLQIA--WVGGFIAISIISFLS 339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              263 VTPEAWAQLSPALLQQ---QLSGAYTSQSR---PPVQDQLSQSERYLYGSLATLLICLCA 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       340 LIGVILVPLMN-RVFFKFLLSFLVALAVGTLSGDAFLHLLPHSHASHHHSHSHEEPAMEM 398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     399 KRGPLFSHLSSQNIEESAYFDSTWKGLFALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKP 458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ------EEGLSPOPTWRLLAMLAGLYARFLFENLFNLL------LP 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----IKKQLSKYESQLSTNEEKVDTDDRTEGYLRADSQEP 501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             502 SHFDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQSDDLIHHHHDY 561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----- 457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                232 VSRL-AGRKINESVSEPRKG-----FMYSRNINENPQECFNASKLLTSHGMGIQVP 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  562 HHILHHHHUNHHPHSHSQRYSREELKDAGVATLAWMVIMGDGLHNFSDGLAIGAAFTEG
                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          622 LSSGLSTSVAVFCHELPHELGDFAVLLKAGMTVKQAVLYNALSAMLAYLGM 672
                                                                                                                                                                                                                                                                                                                  Indels 186;
                                                                                                                                                                                                                                                                             Length 626;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: AKIYAMA, YUTAKA
APPLICANT: ABURATHINI, HIROYUKI
TITLE OF INVENTION: NOVEL G PROTEIN-COUPLED RECEPTORS
FILE REFERENCE: 0844335/0152
                                                                                                                                                                                                                                                                                                                  173;
                                                                                                                                                                                                                                                                           10.0%; Score 404; DB 15; 24.7%; Pred. No. 1.5e-26;
                                                                                                                                                                                                                                                                                                                  86; Mismatches
              PRIOR FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: 60/325,102
PRIOR FILING DATE: 2001-09-26
PRIOR FILING DATE: 2001-09-19
PRIOR FILING DATE: 2001-09-19
NUMBER OF SEQ ID NOS: 363
SOFTWARE: FRACESEQ for Windows Version 4.0
SEQ ID NO 95
LENGTH: 626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/10/017,161
CURRENT FILING DATE: 2002-12-18
PRIOR APPLICATION NUMBER: JP 2001/246789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2394, Application US/10017161
Publication No. US20030143668A1
GENERAL INFORMATION:
APPLICANT: SUWA, MAKIKO
APPLICANT: ASAI, KIYOSHI
PRIOR APPLICATION NUMBER: 60/311,732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                440 PHEGSRADLVAEE------
                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 459 ENDDDVE------
                                                                                                                                                                                                               ) ORGANISM: Homo sapiens
US-10-097-340-95
                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 9
US-10-017-161-2394
                                                                                                                                                                                                                                                                                                                  146;
                                                                                                                                                                                                                                                                                                                                                                                                                                     174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            458
                                                                                                                                                                                                 TYPE: PRT
                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                             Best Local
Matches 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q\underline{\gamma}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q\bar{y}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qγ
```

509

641

υ

```
; LOCARION: (39)
.; OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids US-10-650-704-239
                                                                       LSSQNIEESAYFDSTWKGLTALGGLYFMFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEI 466
                                                                                                   :| | : | | : | | 1.5 SASPGGEGOSLOQQQQLGUWIAGILTF-----LALEKWFLDSKEEGTSQAPNKDPTAA 178
                                                                                                                                                           467 KKQLSKYESQLSTNEEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQE 526
                                                                                                                                                                                                       527 VYNEYVPRGCKNKCHSHFHDTLGQSDDLIHHHHDYHHHHHQNHHPHSHSQRYSREE 586
                                                                                                                                                                                                                                                                                                                                         LKDAGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAV 646
                                                                                                                                                                                                                                                                                                                                                                   ----HYAENVSMWIFALTAGL 696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LLRAG------FDRWSAAKLQLSTALGGLLGAGFAICTQSPKGVEETAAWVLPFTSGG 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    292 PAIINQIDARSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLANR 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           54 PALRSRGTATACRLDNKESESSWGALLSGERLDTWICSLLGSLMVGLSGVFPLLVIPLEMG 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        352 VFFK----FLLSFLVALAVGTLSGDAFLHLLPHSHASHHHSHSHEEPAMEMKRGPLFSH 406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  407 LSSQNIEESAYFDSTWKGLTALGGLYFWFLVEHVLTLIKQFKDKKKKNQKKPENDDDVEI 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                :| : | | : | | 1.54 SASPGGEGQSLQQQQQLGLWVIAGILIF-----LALEKWFLDSKEEGTSQAPNKDPTAA 207
                                                                                                                                                                                                                                                                                               --- VVRS 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     697 FMYVALVDMVPEMLHNDASDHGCSRWGYFFLQNAGML-LGFGIMLLISIF 745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels 158;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 383;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5.8%; Score 234; DB 15; 20.4%; Pred. No. 6.1e-12; tive 71; Mismatches 145;
                                                                                                                                                                                                                                                                                                                                                                                                                               647 LLKAGMTVKQAVLYNALSAMLAYLGMATGIFIG-----
      : : |:: |:: |:: |:: |:: | TMLRSEAGAWRLKQLLSFALGGLLGNVFLHLLPEAWA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 239, Application US/10050704
Publication No. US20030050442A1
GENERAL INFORMATION:
The Proposition of the property of the Proteins
TITLE OF INVENTION: 62 Human Secreted Proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION NUMBER: US/10/050,704
CURRENT FILING DATE: 2002-01-18
PRIOR APPLICATION NUMBER: US/10/060,704
PRIOR FILING DATE: 2000-10-10
PRIOR FILING DATE: 2000-04-06
PRIOR FILING DATE: 2000-04-06
PRIOR FILING DATE: 1999-04-05
PRIOR FILING DATE: 1999-04-05
PRIOR FILING DATE: 1999-04-05
PRIOR FILING DATE: 1999-04-05
PRIOR FILING DATE: 1999-04-26
NUMBER OF SEQ ID NOS: 344
SEQ ID NO 239
                                                                                                                                                                                                                                                                                                  ----GTG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 20.4 Matches 96; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12
US-10-050-704-239
                                                                     107
                                                                                                                                                                                                                                                                                               196
                                                                                                                                                                                                                                                                                                                                         587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
                                                                   δy
                                                                                                             Db
                                                                                                                                                           QΫ
                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                   Q \underline{y}
                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                           δy
                                                                                                                                                                                                                                                                                                                                                                                 d
                                                                                                                                                                                                                                                                                                                                                                                                                               QΫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΣ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q\underline{y}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14;
                                                                                                                                                                                                                                                                          ; LOCATION: (4); OTHER INFORMATION: Xea equals any of the naturally occurring L-amino acids US-10-102-806-743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               . LOCATION: (10)
; OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
US-10-050-704-115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     655 KQAVLYNALSAMLAYLGMATGIFIGHYAENVSMWIFALTAGLFMYVALVDMVPEMLH-ND 713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      292 PAIINQIDARSCLIHTSEKKAEIPPKTYSLQIAWVGGFIAISIISFLSLLGVILVPLMNR 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       352 VFFK----FLLSFLVALAVGTLSGDAFLHLLPHSHASHHHSHSHEBPAMEMKRGPLFSH 406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  595 LAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGMTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5.8%; Score 234; DB 15; Length 354; 20.4%; Pred. No. 5.4e-12; Live 71; Mismatches 145; Indels 158;
                                                                                                                                                                                                                                                                                                                                                                                 ; Score 395.5; DB 15; Length 204; Pred. No. 1.5e-26; 29; Mismatches 44; Indels 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            172 PRP----WLLFLLHNVGLLGGWTVLLLLSLYEDDITF 204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  714 ASDHGCSRWGYFFLQNAGMLLGFGIMLLISIFEHKIVF 751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 115, Application US/10050704
Publication No. US20030050442a1
GENERAL INFORMATION:
APPLICANT: Ruben et al.
TITLE OF INVENTION:
FILE REPRENCE: PZ039P1
CURRENT FILIG DATE: 2000-10-18
CURRENT FILING DATE: 2000-10-18
PRIOR APPLICATION NUMBER: 09/684,524
PRIOR PAPLICATION NUMBER: 09/684,524
PRIOR PAPLICATION NUMBER: PCT/US00/08979
PRIOR PAPLICATION NUMBER: PCT/US00/08979
PRIOR PLING DATE: 1999-04-06
PRIOR APPLICATION NUMBER: 60/128,693
PRIOR APPLICATION NUMBER: 60/128,693
PRIOR APPLICATION NUMBER: 60/128,693
PRIOR PLILNG DATE: 1999-04-09
PRIOR FILING DATE: 1999-04-09
PRIOR FILING DATE: 1999-04-26
NUMBER OF SEQ ID NOS: 344
SEQ ID NO 115
LENGTH: 354
                  PRIOR APPLICATION NUMBER: PCT/USO0/05881
PRIOR PILING DATE: 2000-03-08
PRIOR APPLICATION NUMBER: 60/124,270
PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 846
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 743
                                                                                                                                                                                                                                                                                                                                                                                 1 9.8%;
Similarity 49.4%;
FILING DATE: 2001-08-10
                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 49.4%
Matches 78; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     96; Conservative
                                                                                                                                                                                                                       ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity
Matches 96; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: SITE
                                                                                                                                                                                                                                                                      NAME/KEY: SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 11
US-10-050-704-115
                                                                                                                                                                              LENGIH: 204
                                                                                                                                                                                                       PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                               FEATURE:
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ă
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QΣ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ğ
```

g

2

Q

g ŏ g

 $Q_{\overline{Y}}$ g

ΟŽ

```
14;
                                                                                                                                                                                                                                                                                                                                                                                                              91 НІННОНОННЯОНЕННЯОНЕКНЯОНЕКНЯОНЕННЯОНЕКНЯОННЯННААЗСКИКТКАLCPDHD 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    151 SDSSGKDPRNSQGKGAHRPEHASGRRNVKDSVSASEVTSTVYNTVSEGTHFLETIETPRP 210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    211 GKLFPKDVSSSTPPSVTSKSRVSRLAGRKTNESVSEPRKGFMYSRNTNENPQECFNASKL, 270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             271 LISHGMGIQVPLNATEFNYLCPAIINQIDARSCLIHTSEKKAEIPPKTYSLQIAWVGGFI 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               126 -----ITIITTATTITTI-TTIITTIITTITTTTTTTTITTIPLPPPPPSSP----- 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     170 -----SLSPPSQPSPPELH 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        385 -HHHSHSHEEPAMEMKRGPLFSHLSSQNIEESAYFDSTWKGLTALGGLYFMFLVEHVLTL 443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----LYYLYYHHH---- 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               444 IKQFKDKKKKNQKKPENDDDVEIKKQLSKYESQLSTNEEKVDTDDRTEGYLRADSQEPSH 503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 504 FDSQQPAVLEEEEVMIAHAHPQEVYNEYVPRGCKNKCHSHFHDTLGQSDDLIHHHHDYHH 563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ----нннннхнн 220
                                                                                                                                                                                                                                                                                                                                                                                                                                    331 AISIISFLSLLGVILVPLMNRVFFKFLLSFLVALAVGTLSGDAFLHLLPHSHAS----
                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels 294;
                                                                                                                                                                                                                                                                                                                                       Query Match 4.8%; Score 192; DB 9; Length 292; Best Local Similarity 16.8%; Pred. No. 2e-08; Matches 83; Conservative 18; Mismatches 100; Indels 2:
                                                TYPE TO CREANISM: Homo sapiens

ORGANISM: Homo sapiens

PRATURE:
OTHER INFORMATION: MAP TO AC005414.2

OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 5.5

OTHER INFORMATION: EXPRESSED IN HELLOO, SIGNAL = 6.2

OTHER INFORMATION: EXPRESSED IN HERAT, SIGNAL = 7.1

OTHER INFORMATION: EXPRESSED IN HERAT, SIGNAL = 6.1

OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 8.5

OTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 8.7

OTHER INFORMATION: EXPRESSED IN BIT474, SIGNAL = 7.7

OTHER INFORMATION: EXPRESSED IN BITATO, SIGNAL = 7.7

OTHER INFORMATION: EXPRESSED IN BITATO, SIGNAL = 7.7

OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 7.7

OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 7.9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 196, Application US/10319763
; Publication No. US20030144490A1
; Publication No. US20030144490A1
; RAPLICANT: Dunas Milne Edwards, Jean-Baptiste
; APPLICANT: Duclert, Aymeric
; APPLICANT: Bougueleret, Lydie
; TILLE OF INVENTION: EXTENDED CODNAS FOR SECRETED PROTEINS
; FILLE REFERENCE: G-031.US04.DIV
; CURRENT FILLING DATE: 2002-12-10
; PRIOR APPLICATION NUMBER: 60/066,677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ---HHHHHHHH----
SOFTWARE: Annomax Sequence Listing Engine vers. 1.1 SEQ ID NO 37944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----HHKH-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            564 ІІННННОМНІРНЯН 578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           185 СНННУН------
                                                                                                                                                                                                                                                                                                        US-09-864-761-37944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-319-763-196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       221
                                                                                                                                                                                                                                                                                                                                                                                                                δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ζŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ÖΖ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ΩŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                     232
                                                                                                                                                       587 LKDAGVATLAWMVIMGDGLHNFSDGLAIGAAFTEGLSSGLSTSVAVFCHELPHELGDFAV 646
                                                                                                                                                                              288 LLRAG------FDRWSAAKLQLSTALGGLLGAGFAICTQSPKGVEETAAWVLPFTSGG 339
                                                                                   527 VYNEYVPRGCKNKCHSHFHDTLGQSDDLIHHHHDYHHILHHHHQNHHPHSHSQRYSREE 586
                                                                                                                                                                                                                            647 LLKAGMTVKQAVLYNALSAMLAYLGMATGIFIG------HYAENVSMWIFALTAGL 696
              KKQLSKYESQLSTNEEKVDTDDRTEGYLRADSQEPSHFDSQQPAVLEEEEVMIAHAHPQE 526
                                                  ------GGHCLA--------AEP--
                                                                                                                          ---VVRS
                                                                                                                                                                                                                                                                                                  FMYVALVDMVPEMLHNDASDHGCSRWGYFFLQNAGML-LGFGIMLLISIF 745
                                                                                                                                                                                                                                                                                                                       -----GTGA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US 09/608,408
FILING DATE: 2000-06-30
APPLICATION NUMBER: US 09/774,203
RILING DATE: 2001-01-29
R OF SEQ ID NOS: 49117
                                                  208 AAALN----
                                                                                                                                                                                                                                                                                                                                                                                        RESULT 13
US-09-864-761-37944
                                                                                                                    225
                                                                                                                                                                                                                                                                                                  697
              467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR FILLI
NUMBER OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR
```

```
PRIOR PRIOR PRIOR A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   54 QYHLQQLFYRYGENNSLSVEGFRKLLQNIGIDKIKRIHIHHDHDHHSDHEHHSDHERHSD 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MARKLSVILILTFALSVTNPLHELKAAAFPQTTEK-----ISPNWESGINVDLAISTR 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic IITLE OF INVENTION: Acids Encoding the Same
                                                                                                                                                                                                                                                                                                                                                                                                                                                          12; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                  Length 150;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                4.1%; Score 166; DB 12;
28.7%; Pred. No. 1.4e-06;
tive 27; Mismatches 68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             :| | | | :: | : | : | 120 GKHEHSHNHQHSHNHLNSENQTVTSVSTKK 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   114 HEHHSDHEHHSDHDHHSHHNHAASGKNKRK 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/946,374
CURRENT FILING DATE: 2011-09-04
PRIOR APPLICATION NUMBER: 60/098716
PRIOR PILING DATE: 1998-09-01
PRIOR PLICATION NUMBER: 60/098723
PRIOR PLICATION NUMBER: 60/098749
PRIOR PLICATION NUMBER: 60/098749
PRIOR FILING DATE: 1998-09-01
PRIOR FILING DATE: 1997-11-13
PRIOR APPLICATION NUMBER: 60/069,957
PRIOR FILING DATE: 1997-12-17
PRIOR PELING DATE: 1997-12-17
PRIOR PELING DATE: 1998-02-09
PRIOR PELING DATE: 1998-02-09
PRIOR PELING DATE: 1998-04-13
PRIOR PELING DATE: 1998-04-13
PRIOR APPLICATION NUMBER: 60/096,116
PRIOR APPLICATION NUMBER: 60/099,273
PRIOR APPLICATION NUMBER: 60/099,273
PRIOR APPLICATION NUMBER: 60/099,273
PRIOR PELING DATE: 1998-09-04
NUMBER OF SEQ ID NOS: 229
SOFTWARE: PAECH. PM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ferrara, Napoleone
Fong, Sherman
Gao, Wei-Oiang
Goddard, Audrey
Godowski, Paul J.
Grimaldi, Christopher J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 95, Application US/09946374
Publication No. US20030073129A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Stewart, Timothy A. Tumas, Daniel Watanabe, Colin K. Williams, P. Mickey Wood, William I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gurney, Austin L.
Hillan, Kenneth J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pan, James
Paoni, Nicholas F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Roy, Margaret Ann
Smith, Victoria
                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 28.78
Matches 43; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Baker, Kevin P.
APPLICANT: Botstein, David
APPLICANT: Desnoyers, Luc
APPLICANT: Eaton, Dan L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILE REFERENCE: P2830P1C1
                                                                                                                                                                                                                                                                                                                            ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-319-763-196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -09-946-374-95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QΫ
```

```
PRIOR PILING DATE: 1938-09-01
PRIOR PILING DATE: 1938-09-01
PRIOR PILING DATE: 1938-09-02
PRIOR PILING DATE: 1938-09-02
PRIOR PILING DATE: 1938-09-03
PRIOR PILING DATE: 1938-09-03
PRIOR PILING DATE: 1938-09-09
PRIOR PILING DATE: 1938-09-10
PRIOR PILING DATE: 1938-09-17
PRIOR PILING DATE: 1938-09-18
PRIOR
```

```
PRIOR PELICATION DATE: 1998-09-22
PRIOR APPLICATION UNDRER: 60/10147
PRIOR FILING DATE: 1998-09-23
PRIOR PELICATION NUMBER: 60/101479
PRIOR PLING DATE: 1998-09-23
PRIOR FILING DATE: 1998-09-23
PRIOR FILING DATE: 1998-09-24
PRIOR FILING DATE: 1998-09-24
PRIOR FILING DATE: 1998-09-24
PRIOR PLING DATE: 1998-09-24
PRIOR FILING DATE: 1998-09-24
PRIOR PLING DATE: 1998-09-29
PRIOR PLING DATE: 1998-10-01
PRIOR PLING DATE: 1998-10-01
PRIOR PLING DATE: 1998-10-07
PRIOR PLING D
```

----ILHHHHQNHHPHSH- 578 579 ------SQRYSREELKDAGVATLAWMVIMGDGLHNFSDGLAIG-A 616 | :| :| :| :| :| 107 XIGVSLVLGFVFMLLVDQIGNSHVHSTDDPEAARSSNSKITTTLGLVVHAAADGVALGAA 166 227 LGLSKSSKEALSEVNATGV------AMLFSAGTFLYVATVHVLPEVGGIGHSHK 274 617 AFTEGLSSGLSTSVAVFCHELPHELGDFAVLLKAGM---TVKQAVLYNALSA----MLAY 669 670 LGM-----ATGIFIGHYAENVSMWIFALTAGLFWYVALVDMVPE---MLHNDA 714 Gaps Indels 86; Length 307; 4.1%; Score 166; DB 11; 24.8%; Pred. No. 4.1e-06; tive 40; Mismatches 80; 715 SD----HGCSRWGYFFLQNAGMLLGFGIMLLISI 744 275 PDATGGRGLSR----LEVAALVLGCLIPLILSV 303 532 VPRGCKNKCHSHFHDTLGQSDDLIHHHHDYHH completed: September 12, 2003, 22:27:24 e : 65 secs PRIOR FILING DATE: 1998-10-14
PRIOR PLING DATE: 1998-10-14
PRIOR FILING DATE: 1998-10-20
PRIOR PLING DATE: 1998-10-20
PRIOR PLING DATE: 1998-10-20
PRIOR PLING DATE: 1998-10-20
PRIOR PLING DATE: 1998-10-20
PRIOR APPLICATION NUMBER: 60/10502
PRIOR PLING DATE: 1998-10-21
PRIOR PLING DATE: 1998-10-21
PRIOR PLING DATE: 1998-10-22
PRIOR PLING DATE: 1998-10-26
PRIOR PLING DATE: 1998-10-26 Query Match
Best Local Similarity 24.88
Matches 68; Conservative Search cor Job time QQ 셤 δλ δã g QΥ δ g δŽ